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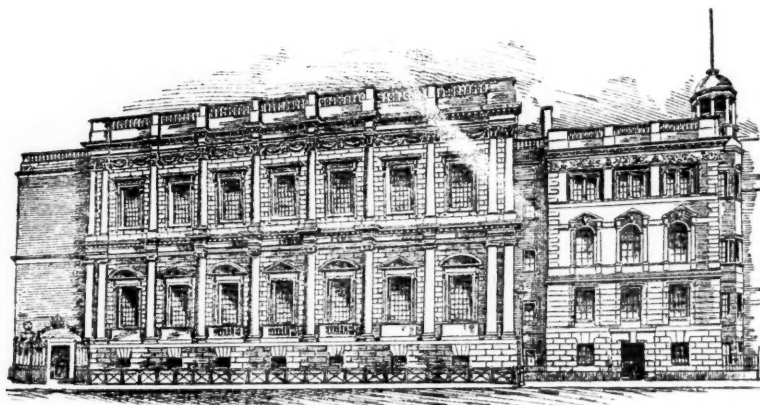
**JOURNAL**  
*of the*  
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**Vol. LXV., No. 457.—FEBRUARY, 1920.**

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C. G. W.  
15.11.1920.

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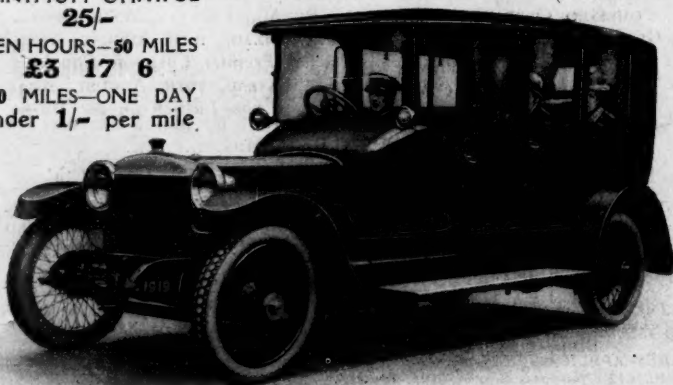
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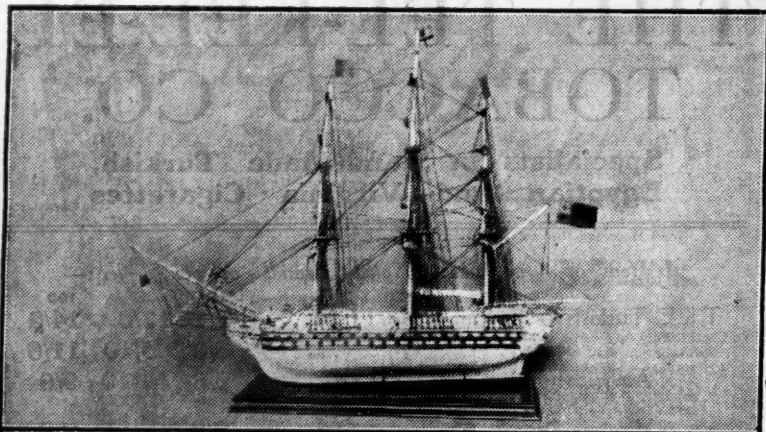
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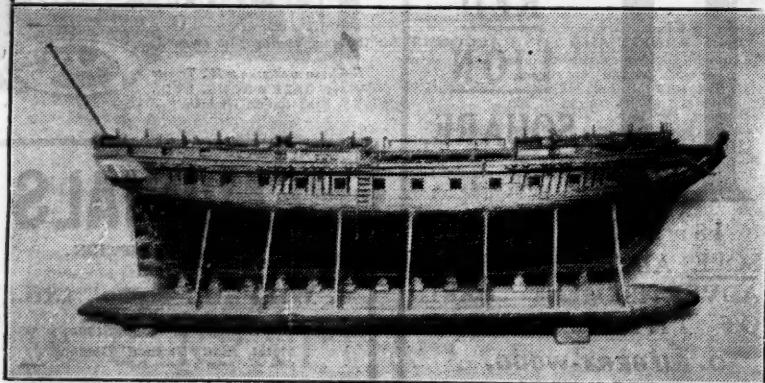
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# LONDON JOINT CITY & MIDLAND BANK, Limited. ESTAB. 1838.

Authorised Capital £45,200,000. 0.0 Paid-up Capital £2,417,335. 0.0  
Subscribed Capital £35,673,585.10.0 Reserve Fund £2,417,335. 0.0

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## HEAD OFFICE: 5, THREADNEEDLE STREET, LONDON, E.C.2.

Joint General Managers: E. W. WOOLLEY, R. RICHARDS, H. MARE, J. G. BUCHANAN.

## BALANCE SHEET, 31st December, 1919.

LIABILITIES.			ASSETS.		
	£	s. d.		£	s. d.
To Capital Paid up, viz.:-			By Cash in hand (including Gold Coin £3,000,000) and Cash at Bank of England	60,216,704	0 11
2,869,079 Shares of £12 each			" Cheques on other Banks in transitu	8,050,607	8 4
£2 10s. 0d. paid	7,172,097	10 0	" Money at Call and at Short Notice	18,439,151	14 4
497,855 Fully paid Shares of £2 10 0d. each	1,244,637	10 0	" Investments:-		
	8,417,335	0 0	War Loans, under cost (of which £42,067 10s. is lodged for Public and other Accounts) and other British Government Securities	64,216,943	4 3
" Reserve Fund	8,417,335	0 0	Stocks Guaranteed by the British Government and Indian Railway Debentures	405,383	7 9
" Dividend payable on 2nd February, 1920	530,292	2 1	British Railway Debenture and Preference Stocks, British Corporation Stocks	942,274	9 9
" Balance of Profit and Loss Account, as below	726,852	6 2	Colonial and Foreign Government Stocks and Bonds	1,011,600	5 2
	18,091,514	8 3	Sundry Investments	727,227	1 2
" Current, Deposit and other Accounts	371,742,389	0 1	" Bills of Exchange	52,889,521	6 11
" Acceptances on account of Customers	29,014,568	4 5	" Advances on Current and other Accounts	162,969,744	16 0
			" Advances on War Loans	15,889,308	5 2
			" Liabilities of Customers for Acceptances	29,014,568	4 5
			" Bank Premises, at Head Office and Branches	3,618,960	8 7
			" Belfast Bank Shares:-		
			50,000 £12 10 0 Old Shares £2 10 0 paid		
			150,000 £12 10 0 New Shares £2 10 0 paid		
			Cost	£1,237,500	0 0
			Less part Premium on Shares issued	477,810	0 0
				759,690	0 0
	£418,848,771	12 9		£418,818,771	12 9

## Dr. PROFIT AND LOSS ACCOUNT for the year ending 31st December, 1919. Cr.

	£	s. d.		£	s. d.
To Interim Dividend at the rate of 18 per cent. per ann. less Income Tax, paid 15th July, 1919	522,211	11 4	By Balance from last Account	675,097	14 7
" Dividend at the rate of 18 per cent. per ann., less Income Tax, payable on 2nd Feb. 1920	530,292	2 1	" Not profits for the year ending 31st December, 1919, after providing for all Bad and Doubtful Debts	3,079,460	19 8
" Salaries and Bonus to Staff with H.M. Forces and Bonus to other Members of the Staff	475,202	14 8			
" Special "Peace" Bonus to Staff	250,000	0 0			
" Reserve for Depreciation of War Loans and Future Contingencies	1,000,000	0 0			
" Bank Premises Redemption Fund	250,000	0 0			
" Balance carried forward to next account	726,852	6 2			
	£3,754,558	14 3		£3,754,558	14 3

R. MCKENNA, CHAIRMAN. W. G. BRADSHAW, A. H. GOSCHEN, F. W. NASH, DEPUTY CHAIRMEN. S. B. MURRAY, F. BYDE, J. F. DARLING, JOINT MANAGING DIRECTORS.

Report of the Auditors to the Shareholders of the London Joint City and Midland Bank, Limited.  
In accordance with the provisions of Sub-section 2 of Section 113 of the Companies Consolidation Act, 1908, we report as follows:-  
We have examined the above Balance Sheet in detail with the Books at Head Office and with the certified Returns from the Branches. We have satisfied ourselves as to the correctness of the Cash Balances, Cheques on other Banks in transitu, and the Bills of Exchange, and have verified the correctness of the Money at Call and Short Notice. We have also verified the Securities representing the Investments of the Bank, and having obtained all the information and explanations we have required, we are of opinion that such Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Company's affairs according to the best of our information and the explanations given to us and as shown by the books of the Company.  
LONDON, 18th January, 1920. WHINNEY, SMITH & WHINNEY, CHARTERED ACCOUNTANTS, Auditors.

This Bank is the Proprietor of the Belfast Banking Company, Limited.



# A GREAT RECORD

## 102 YEARS Of Service for the Sailor

**MORE THAN 100 SAILORS' HOMES AND RESTS ESTABLISHED  
IN WELL-KNOWN PORTS THROUGHOUT THE WORLD.**

**DURING THE WAR** the British and Foreign Sailors' Society succoured no less than 41,000 men, women, and children from torpedoed ships, and saved 1,000 Sailor Prisoners of War from starvation

## Funds are Urgently Needed

to carry on the following work:

1. Relief to Sailors and their dependents.
2. Training British Boys for British Ships.
3. Providing Floating Ships' Libraries and Lighthouse literature.
4. Building a Memorial Hostel for Sailors in the Port of London.

AND OTHER ACTIVITIES.

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A Patriotic and non-Party Organisation whose principal aims are:—

1. The Education of public opinion throughout the Empire, so that **Command of the Sea** by the British Fleet may be regarded as the first consideration of National and Imperial Policy.
2. The promotion of the teaching of the **use of Sea Power**, and the outlines of Naval History, in all the schools of the British Empire.
3. The training of **British Boys for the Sea**, by means of Naval Brigades, Brigs and training ships, with a view of eliminating all aliens from Britain's sea service.
4. The organisation of public opinion in support of the creation of an Imperial Air Service, under a responsible Air Ministry, to ensure Britain's **Command of the Air**.

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Members, with publications post free, not less than—	0	5	0	annually.
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All communications to be addressed—

**THE GENERAL SECRETARY,  
THE NAVY LEAGUE,  
13, Victoria Street, London, S.W. 1.**

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# THE JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.

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**Assistant General Managers: W. J. Stokoe, J. Caulcutt, F. Straker, Leonard K. Jarvis, L. D. Lewis, R. W. Street, Percy C. Harte.**  
**General Managers' Assistants: T. E. Francis, E. E. Gates, E. A. Udall.**  
**Secretaries: E. Fisher, W. N. Seeley.**  
**Assistant Secretaries: E. C. Ruggles-Brise, H. D. Carroll.**

**Foreign Branch:—108, FENCHURCH STREET, E.C. 3.**  
**W. O. Stevenson, Foreign Manager. L. A. Davis, Deputy Foreign Manager.**

**Trustee Department:—3, BANK BUILDINGS, LOTHBURY, E.C. 2.**  
**C. A. Chase, W. Baker, Managers.**

Dr. BALANCE SHEET, 31st December, 1919. Cr.			
LIABILITIES.		ASSETS.	
	£ s. d.		£ s. d.
Current, Deposit and other Accounts (including balance of Profit and Loss) .. .. .	290,059,132 2 1	Cash in hand, and with the Bank of England .. .. .	51,546,450 12 10
Acceptances and Endorsements, etc., for account of Customers .. .. .	13,588,824 18 10	Money at Call and Short Notice .. .. .	20,031,495 0 0
Capital, viz.:—		Balances with other British Banks and Cheques in course of collection .. .. .	13,627,899 8 4
857,589 A Shares of £4 each, fully paid .. .. .	3,430,356 0 0	Bills Discounted .. .. .	30,253,309 3 7
5,390,000 B Shares of £2 each, £1 paid .. .. .	5,390,000 0 0	Investments:—	
Reserve Fund .. .. .	7,000,000 0 0	(Including £784,025 0s. 9d. securities lodged for County and other Public Accounts)	
		Securities of, or guaranteed by, the British Government. The War Issues taken at or under cost .. .. .	53,135,785 6 0
		British Dominions and Colonial Government Securities, Bank of England and British Corporation Stocks .. .. .	6,062,463 16 9
		British Railway Stocks and other Investments .. .. .	3,143,130 11 7
		Advances to Customers and other Accounts .. .. .	130,095,257 8 8
		Liability for Acceptances and Endorsements, etc. (per contra) .. .. .	13,588,824 18 10
		Bank Premises and adjoining Properties .. .. .	3,983,606 14 4
	£325,468,313 0 11		£325,468,313 0 11

Dr. PROFIT AND LOSS ACCOUNT for the Year ended 31st December, 1919. Cr.			
	£ s. d.		£ s. d.
To Salaries and other Expenses at Head Office and Branches, including Directors' Remuneration, Staff Bonus, and Income Tax .. .. .	3,751,628 7 2	By Profit unappropriated on 1st January, 1919 .. .. .	278,427 15 7
„ Reduction of Premises and payment for Buildings .. .. .	150,000 0 0	„ Gross Profit, full provision having been made for Rebate and for Bad and Doubtful Debts .. .. .	5,873,810 18 9
„ Reserve for Staff Pensions .. .. .	100,000 0 0		
„ Contingency Account .. .. .	650,000 0 0		
„ Interim Dividend, less Income Tax .. .. .	494,806 12 5		
„ Final Dividend, less Income Tax .. .. .	497,362 9 2		
„ Balance, being Undivided Profit, carried forward to next year .. .. .	508,450 5 7		
	£6,152,247 14 4		£6,152,247 14 4

**F. C. GOODENOUGH, Chairman.** **W. FAVILL TUKE, (General S. J. RANDLE, ) Chief**  
**HERBERT HAMBLING, Deputy Chairman.** **W. CARRUTHERS, (Managers. C. B. MEYRICK, ) Accountants.**  
**EDMUND H. PARKER, Vice-Chairman.**

### AUDITORS' REPORT.

We have compared the Balance Sheet with the balances on the Books at the Head Office, and with the detailed Returns from the Branches. We have verified the Cash at the Head Office and at the Bank of England, and the Investments of the Bank, as well as those held against Money at Call and Short Notice, and having obtained all the information and explanations we have required, we are of opinion that the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Company's affairs according to the best of our information and the explanations given to us and as shown by the Books and Returns of the Company.

London, 15th January, 1920.

**KEMP, SONS, SENDELL & CO., (Auditors.**  
**PRICE, WATERHOUSE & CO., )**

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A GUN FOR EVERYONE.**

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Honorary Committee:

**Lord MONTAGU of BEAULIEU**  
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AND

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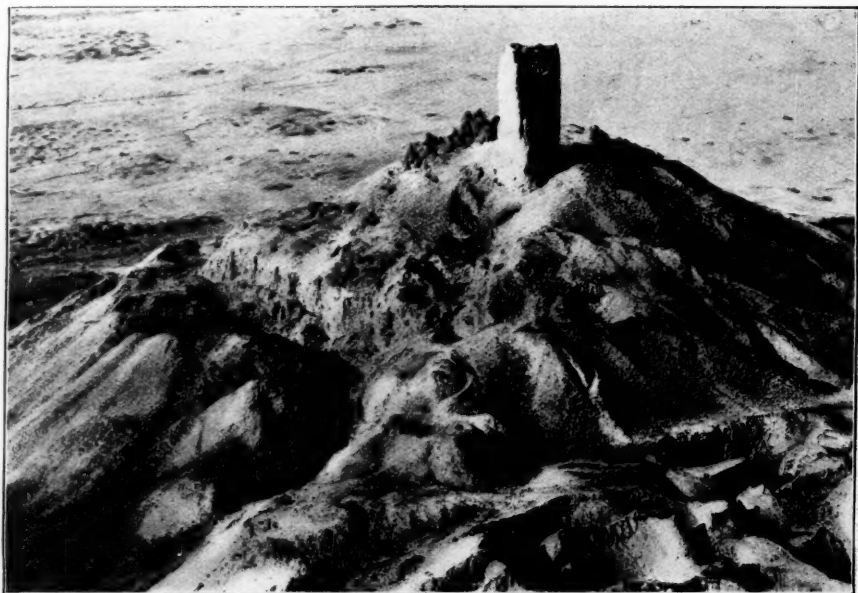
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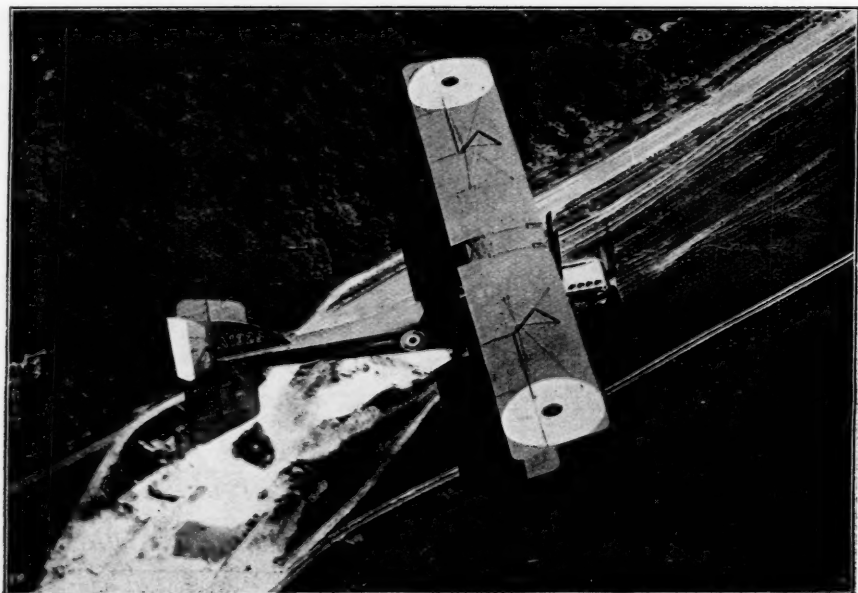


CAMEL FLYING OFF SHIP'S DECK.



**THE TOWER OF BABEL.**

**Taken from an Aeroplane.**



**B.E.2E, IN FLIGHT DOING CONTACT PATROL.**

## SECRETARY'S NOTES.

### I.—Vice-Presidents.

The Council regret to have to report the death of Field-Marshal Sir H. E. Wood, V.C., G.C.B., G.C.M.G., who had been a Vice-President since 1913.

### II.—Council.

Commodore H. E. P. Sinclair, C.B., Director of Naval Intelligence, has been appointed a Member of the Council as the official representative of the Admiralty.

Air Commodore H. R. M. Brooke-Popham, C.B., C.M.G., D.S.O., A.F.C., was elected by the Council to represent the Royal Air Force, vice Captain H. D. Briggs, C.M.G., R.N., who has reverted to the Royal Navy, but retains his seat on the Council as a Naval Representative.

The following Members of the Council retire, having completed three years' service, viz. :—

Admiral Sir F. C. D. Sturdee, Bart., K.C.B., K.C.M.G., C.V.O.

Vice-Admiral Sir A. C. Leveson, K.C.B.

Admiral W. F. S. Mann.

Captain H. W. Richmond, R.N.

Field-Marshal Sir H. H. Wilson, Bart., G.C.B., D.S.O.

Lieut.-General H. D. Hutchinson, C.S.I.

Lieut.-General Sir A. E. Codrington, K.C.V.O., C.B.

Colonel Sir E. W. D. Ward, Bart., G.B.E., K.C.B., K.C.V.O.

Colonel C. H. Colvin, C.B., D.S.O.

Lieut.-Colonel R. Shoolbred, C.M.G.

Lieut.-Colonel A. St. L. Glyn.

### III.—Anniversary Meeting.

The 89th Anniversary Meeting will be held on Tuesday, March 2nd, at 3 p.m. in the Theatre of the Institution. The Council will present their Annual Report and statement of accounts; the election to the Council of new Members, and other business will take place.

The following Officers have been proposed for election to the Council :—

#### *Royal Navy* (1 vacancy)—

Admiral Sir F. C. D. Sturdee, Bart., K.C.B., K.C.M.G., C.V.O.

Captain H. W. Richmond, R.N.

#### *Régular Army* (4 vacancies)—

Field-Marshal Sir H. H. Wilson, Bart., G.C.B., D.S.O.

Lieut.-General Sir Ivor Maxse, K.C.B., C.V.O., D.S.O.

Lieut.-General Sir A. E. Codrington, K.C.V.O., C.B.

Major-General Sir L. C. Jackson, K.B.E., C.B., C.M.G.

Major-General W. H. Anderson, C.B. (Commandant Staff College).

Major-General Sir V. A. Couper, K.C.B.

#### *Special Reserve* (1 vacancy)—

Colonel C. H. Colvin, C.B., D.S.O.

*Territorial Force* (2 vacancies)—

Colonel B. C. Green, C.M.G., T.D. (London Scottish).

Lieut.-Colonel R. Shoolbred, C.M.G., T.D.

**IV.—Members.**

The Council beg to report that during the past year 501 Officers joined the Institution (against 303 in 1918). There were 171 withdrawals and 125 deaths (of which 39 were Life Members), making an increase of 205 on the year. The temporary suspension of the Entrance Fee and the reduction in the amount for Life Membership remained in force until the end of 1919. The Council trust that Members will do their utmost to introduce new Members during the coming year.

The details of Members joining were :—

Regular Army	...	...	...	...	...	254
Royal Navy	...	...	...	...	...	82
Royal Air Force	...	...	...	...	...	52
Territorial Force (including Yeomanry)	...	...	...	...	...	45
Royal Marines	...	...	...	...	...	19
Special Reserve	...	...	...	...	...	17
Colonial Forces	...	...	...	...	...	12
Royal Naval Reserve	...	...	...	...	...	9
Royal Volunteer Naval Reserve	...	...	...	...	...	9
Cadet Battalions	...	...	...	...	...	1
War Office (Civil) Staff	...	...	...	...	...	1
Total	...	...	...	...	...	501

The total number of Members on January 1st, 1920, was 5,160.

**V.—Officers Joined.**

The following Officers joined the Institution during the months of November, December, and January, viz. :—

Captain D. F. Colyer, D.F.C., Royal Air Force.

H. B. Goodwin, Esq., M.A., late Naval Instructor, R.N.

Lieutenant H. N. Munro, Royal Air Force.

Flight-Lieutenant W. E. G. Beauforte-Greenwood, Royal Air Force.

Lieutenant P. D. Rogers, K.R.R.C.

Captain R. E. Lewis, West India Regiment.

Major S. W. Smith, O.B.E., Royal Air Force.

Lieutenant L. Freeborn, M.B.E., Royal Air Force.

Lieutenant J. B. Donald, Royal Air Force.

Wing-Commander P. B. Joubert de la Ferte, C.M.G., D.S.O.,

Royal Air Force.

The Reverend W. B. Dowding, late Royal Army Chaplain's Dept.

Squadron-Leader F. E. T. Hewlett, O.B.E., D.S.O., Royal Air Force.

Captain S. W. Sykes, O.B.E., M.C., General List.

Captain W. A. Pickering, late R.N.

Major M. H. M. Lamb, O.B.E., M.C., Special List.

Captain L. Gilbert, Royal Inniskilling Fusiliers.

Captain D. E. Rodwell, Royal Air Force.

Lieutenant J. Freeman-Fowler, Royal Air Force.

Flight-Lieutenant G. B. Dacre, D.S.O., Royal Air Force.

Captain E. J. T. Housden, M.C., R.F.A.  
 Major B. de W. Weldon, M.C., Lancashire Fusiliers.  
 Squadron-Leader A. Levick, O.B.E., Royal Air Force.  
 Captain H. M. Logan, Royal Canadian Regiment.  
 Major H. F. C. McSwiney, M.C., I.A.  
 Lieut.-Commander R. G. Studd, D.S.O., R.N.  
 Lieutenant G. C. Lambros, late R.N.V.R.  
 Captain A. K. Henderson, late Intelligence Corps.  
 Lieutenant M. G. Beck, Devonshire Regiment.  
 Group-Captain C. R. Samson, C.M.G., D.S.O., A.F.C., Royal Air Force.  
 Wing-Commander A. Fletcher, C.M.G., C.B.E., M.C., Royal Air Force.  
 Colonel E. Faux, C.M.G., late 7th Bn. London Regiment.  
 Major G. Rutledge, R.M.A.  
 Lieut.-Colonel A. D. Enriquez, late I.A.  
 Lieutenant J. S. Goggin, Royal Air Force.  
 Lieut.-Colonel H. A. Walker, C.M.G., D.S.O., Royal Fusiliers.  
 Squadron-Leader H. J. F. Hunter, M.C., Royal Air Force.  
 Captain J. S. Bridges, late R.A.  
 Lieut.-Colonel G. H. Addison, C.M.G., D.S.O., R.E.  
 Flight-Lieutenant F. P. Don, Royal Air Force.  
 Wing-Commander S. A. Hebden, O.B.E., Royal Air Force.  
 Lieutenant C. F. Horsley, M.C., Norfolk Regiment.  
 Captain W. F. Rhodes, General List.  
 Colonel E. C. Dowse, late Sherwood Foresters.  
 Lieut.-Colonel R. Lombe, late Norfolk Regiment.  
 Captain G. C. Hudson, H.A.C.  
 Group-Captain J. G. Hearson, C.B., D.S.O., Royal Air Force.  
 Captain W. R. Kay, 5th Bn. Hampshire Regiment (T.F.).  
 Lieut.-Colonel H. W. Channer, R.M.L.I.  
 Wing-Commander L. W. B. Rees, O.B.E., M.C., A.F.C., Royal Air Force.  
 Sub-Lieutenant R. G. Lowry, R.N.  
 Flight-Lieutenant W. Hodgson, O.B.E., Royal Air Force.  
 Captain J. D. Ogilvy, I.A.  
 Major N. Rooke, Highland Light Infantry.  
 Wing-Commander H. R. Busteed, O.B.E., A.F.C., Royal Air Force.  
 Captain G. P. Paige, T.D., 4th Bn. D.C.L.I. (T.F.).  
 Lieutenant F. T. Chamier, Connaught Rangers.  
 Flight-Lieutenant W. E. G. Bryant, Royal Air Force.  
 Lieutenant D. F. Cox, Royal Air Force.  
 Captain J. M. Kendall, 4th (Reserve) Bn. Royal Warwickshire Regiment.  
 Lieut.-Colonel E. E. B. Mackintosh, D.S.O., R.E.  
 Lieut.-Colonel C. G. Higgins, C.M.G., D.S.O., Oxfordshire and  
 Buckinghamshire Light Infantry.  
 Lieutenant K. A. Smith, Royal Air Force.  
 Captain G. Thompson, Intelligence Corps.  
 Major C. F. Atkinson, late East Surrey Regiment.  
 Lieutenant J. W. E. Jamieson, I.A.  
 Lieutenant F. W. S. Jourdain, Connaught Rangers.  
 Second Lieutenant W. W. Harston, Dorsetshire Regiment.  
 Captain A. L. Haughton, 5th Bn. D.C.L.I. (T.F.).  
 Colonel W. M. Parker, C.M.G., D.S.O., R.A.S.C.  
 Captain W. P. Buckley, D.S.O., D.C.L.I.  
 Captain J. J. Martin, M.C., Connaught Rangers.  
 Second Lieutenant C. C. P. Lawson, R.A.S.C.

Lieutenant O. G. Gregson, Royal Air Force.  
Engineer-Captain C. H. A. Bermingham, R.N.  
Colonel P. T. Clark, late Oxfordshire and Buckinghamshire Light Infantry.  
Major H. Bettelheim, General List.  
Major A. H. Burne, D.S.O., R.F.A.  
Lieutenant F. Adams, Essex Regiment.  
Second Lieutenant J. Y. Ormsby, R.F.A.  
Captain R. G. W. H. Stone, D.S.O., M.C., R.E.  
Major R. V. G. Horn, D.S.O., O.B.E., M.C., Royal Scots Fusiliers.  
Lieut.-Colonel R. K. A. Macaulay, D.S.O., R.E.  
Captain T. Miller, late Intelligence Corps.  
Brigadier-General Sir A. G. Balfour, K.B.E., C.B.,  
late Highland Light Infantry.  
Lieut.-Commander H. R. Moore, D.S.O., R.N.  
Squadron-Leader A. C. Wright, A.F.C., Royal Air Force.  
Colonel D. G. Pitcher, I.A.  
Lieut.-Colonel H. Curties, late Rifle Brigade.  
Lieut.-Colonel L. V. Bond, R.E.  
Second Lieutenant E. L. Burgin, LL.D. (Lond.), late Intelligence Corps.  
Second Lieutenant B. C. Oldham, R.A.S.C.  
Brigadier-General M. L. Carleton, C.B.E., late R.A.  
Brigadier-General F. H. G. Cunliffe, C.B., C.M.G., late Middlesex Regiment.  
Flight-Lieutenant G. L. Hunting, Royal Air Force.  
Captain D. D. Gracey, M.C., I.A.  
Captain R. Hilton, M.C., D.F.C., R.G.A.  
Lieutenant A. M. Rhodes, late S. African Forces.  
Lieutenant F. W. Rhodes, The Royal Dragoons.  
Lieutenant J. H. Penson, M.C., R.E.  
Lieutenant J. L. Barry, M.B.E., I.A.  
Lieutenant H. W. Mirehouse, M.B.E., South Lancashire Regiment.  
Lieut.-Colonel M. B. Savage, C.B.E., D.S.O., South Staffordshire Regiment.  
Lieut.-Colonel G. J. Giffard, D.S.O., Royal West Surrey Regiment.  
Captain G. E. A. Line, M.C., late 8th Bn. Middlesex Regiment (T.F.).  
Lieut.-Colonel H. Ross, I.A.  
Captain H. C. Caffin, R.E. (S.R.).  
Lieutenant J. W. Partridge, I.A.  
Lieutenant E. C. Fox, M.C., East Lancashire Regiment.  
Lieut.-Commander C. P. Cotton-Stapleton, late R.N.R.  
Captain G. W. H. Tupper, 9th Bn. Middlesex Regiment (T.F.).  
Lieutenant J. P. De B. Smith, R.N.  
Captain J. J. Pearce, Oxfordshire Yeomanry.  
Flight-Lieutenant C. J. W. Darwin, D.S.O., Royal Air Force.  
Captain B. H. Bonham-Carter, I.A.  
Lieutenant G. H. Stapleton-Cotton, late R.N.  
Lieutenant H. V. Hunt, late R.N.V.R.  
Major G. D. Baillie-Hamilton, The Royal Scots.  
Lieut.-Colonel H. F. Montgomery, C.M.G., D.S.O., Royal Marines.  
Major F. Gwatkin, D.S.O., M.C., I.A.  
Major-General T. McCorker, C.B., late R.A.M.C.  
Captain R. W. C. Brook, late Wiltshire Regiment.  
Captain B. M. Money, D.S.O., R.N.  
Wing-Commander I. T. Courtney, O.B.E., Royal Air Force.  
Lieut.-Colonel W. A. Simmonds, late I.M.S.  
Flight-Lieutenant A. J. Capel, Royal Air Force.

# SECRETARY'S NOTES

v

Lieut.-Colonel E. C. Gepp, D.S.O., D.C.L.I.  
 Captain T. Frewen, late Royal Fusiliers.  
 Colonel H. F. H. Hertzberg, D.S.O., M.C., Royal Canadian Engineers.  
 Second Lieutenant R. W. H. Couzens, late R.E.  
 Lieut.-Colonel R. J. Done, D.S.O., R.E.  
 Flight-Lieutenant P. Worthington, M.C., Royal Air Force.  
 Major M. Filmer-Bennett, Royal Marines.  
 Captain S. F. B. Bussell, R.G.A.  
 Lieut.-Colonel P. R. Heycock, R.M.A.  
 Major R. F. B. Naylor, D.S.O., M.C., South Staffordshire Regiment.  
 Major E. S. Phillips, D.S.O., R.G.A.  
 Lieut.-Colonel W. E. White, I.A.  
 Lieut.-Colonel E. S. C. Willis, D.S.O., I.A.  
 Air Commodore D. Le G. Pitcher, C.M.G., C.B.E., D.S.O., Royal Air Force.  
 Major H. F. S. Huntington, O.B.E., Welsh Regiment.  
 Lieutenant K. Edwards, D.S.C., R.N.  
 Colonel W. D. Thomson, C.M.G., I.A.  
 Lieut.-Colonel G. R. Pearkes, V.C., D.S.O., M.C., Canadian Forces.  
 Flight-Lieutenant W. R. Baldwin-Wiseman, Royal Air Force.  
 Lieut.-Colonel R. O'S. Brooke, late A.P.D.  
 Captain D. W. Pinkney, late Royal Air Force.  
 Captain E. R. M. Morton, O.B.E., R.A.S.C.  
 Lieutenant G. T. C. Plowden, late Intelligence Corps.  
 Commander H. R. H. Spencer-Cooper, M.V.O., R.N.  
 Captain G. W. Vivian, C.M.G., R.N.  
 Major P. S. Watkins, D.S.O., R.E.  
 Commander R. W. Myburgh, R.N.  
 Major H. M. Burrows, I.A.  
 Lieut.-Colonel G. B. Roberts, R.E.  
 Major F. H. Scovil, R.G.A.  
 Major A. R. Davies, late 6th (Reserve) Bn. K.R.R.C.  
 Major W. F. Christian, D.S.O., R.G.A.  
 Lieutenant H. D. Moorhead, I.A.  
 Captain R. Blewitt, D.S.O., R.F.A.  
 Major C. M. Maltby, M.C., I.A.  
 Lieutenant F. C. Woods, Connaught Rangers.  
 Captain A. H. Norman, C.M.G., R.N.  
 Lieutenant C. W. Bower, D.S.C., R.N.  
 Major-General Sir D. G. M. Campbell, K.C.B., late 9th Lancers.  
 Lieut.-Colonel R. G. Thomson, C.M.G., D.S.O., R.F.A.  
 Lieutenant W. N. T. Beckett, D.S.C., R.N.  
 Captain J. S. Drennan, M.C., R.F.A.  
 Lieut.-Colonel E. J. Bridges, late 14th Hussars.  
 Captain D. R. W. Mason, I.A.  
 Captain T. R. Anderson, M.C., R.H.A.  
 Lieutenant R. W. M. Hall, I.A.  
 Captain S. I. Wallis, I.A.  
 Major C. J. Heath, R.G.A.  
 Captain R. A. Helps, Royal Berkshire Regiment.  
 Major H. F. P. Rees, R.M.L.I.  
 Lieut.-Colonel H. McK. Kirkby, R.A.O.C.  
 Lieut.-Colonel E. C. Kensington, D.S.O., M.C., I.A.  
 Lieutenant T. J. Stroud, North Staffordshire Regiment.  
 Major T. J. Ponting, I.A.

Major C. M. D. Enriquez, I.A.  
 Lieutenant W. H. Castle, R.A.S.C.  
 Captain R. C. Lowndes, M.C., R.G.A.  
 Captain L. H. Brammall, Royal Lancaster Regiment.  
 Major D. Davies, M.P., late V.B. South Wales Borderers.  
 Major R. V. Pollok, C.B.E., D.S.O., Irish Guards.  
 Major E. A. Bray, O.B.E., M.C., East Yorkshire Regiment.  
 Captain G. B. A. Baker, M.C., R.A.F.  
 Captain R. A. Stubbings, I.A.  
 Major A. F. C. Williams, D.S.O., I.A.  
 Sub-Lieutenant J. R. H. D'Aeth, R.N.  
 Major M. F. Grant, M.D., R.A.M.C.  
 Lieutenant N. O. M. Cameron, R. of O., Cameron Highlanders.  
 Major J. S. Woodruffe, D.S.O., Royal Sussex Regiment.  
 Captain B. C. Lake, D.S.O., King's Own Scottish Borderers.  
 Captain H. R. H. Rouquette, M.C., R.G.A.  
 Captain I. E. R. Weir, I.A.

#### VI.—Gold Medal Essay (Naval) for 1920.

The subject chosen by the Council is :—

“What changes are suggested in Naval Construction and Tactics as a result of—

“ (A) The experience of the war?

“ (B) The development in submarine and aerial warfare in the future?”

Particulars are inserted in the JOURNAL.

#### VII.—Gold Medal Essay (Military) 1919.

The following Essays have been received :—

(1) “Race Horses don't pull up at the Winning Post.”

(2) “*Celer et Audax.*”

The Council greatly regret so few Essays have been submitted as the subject was selected by the General Staff. The result will be announced at the Anniversary Meeting.

#### VIII.—Lectures.

The following further Lectures have been arranged :—

Wednesday, February 18th.—“The Campaign in the Cameroons.” By Lieut.-Colonel A. H. W. Haywood, C.M.G., D.S.O., R.A.

Wednesday, February 25th.—“The Use of Aircraft in Small Wars.” By Group-Captain A. E. Borton, C.M.G., D.S.O., A.F.C.

Wednesday, March 10th.—“Work of the Kite Balloon on Land and Sea.” By Captain P. Worthington, R.A.F.

Wednesday, March 17th.—“The Physical and Ethical Value of Boxing.” By Major H. F. S. Huntington, O.B.E., Welsh Regiment, Assistant Inspector, Physical Training. Major-General Sir V. A. Couper, K.C.B., in the Chair.

Wednesday, April 7th.—“Submarines and Future Naval Warfare.” By Lieutenant W. S. King-Hall, R.N.

*Wednesday, April 14th.*—"Recent Events on the Assam Frontier." By Lieut.-Colonel John Shakespear, C.M.G., C.I.E., D.S.O. General Sir E. B. Barrow, G.C.B., G.C.S.I., in the Chair.

*Wednesday, April 21st.*—"Modern Patriotism." By The Rev. Father Bernard Vaughan, S.J. Sir R. H. Brade, G.C.B., in the Chair.

### IX.—Cavalry Journal.

It has been decided to restart this publication, and it is hoped to bring out a number in March. The Managing-Editor, Lieut.-Colonel Sir Arthur Leetham, will be greatly obliged if subscribers will acquaint him with their changes of rank, address, etc. New subscribers are asked for. Annual Subscription, £1.

### X.—Regimental Colours.

The staff of ladies who undertake this work has again been arranged for. The Secretary is prepared to undertake the repairs to Regimental Colours and Cavalry Standards, in service or otherwise, and there will be no delay in executing the work. An estimate will be given before the work is placed in hand.

### XI.—Museum Catalogue.

The VIIth Edition of the Museum Catalogue has been completed, and is on sale, price half a crown. The Catalogue is completed to the end of 1919 and is illustrated. The number of the Exhibits registered are 5,000.

### XII.—Change of Rank and Address.

The attention of Members is called to the necessity for communicating any changes of rank or address to the Secretary. It is essential that such notification should be made in writing. The 9th day of the month of issue is the last day on which such change can be notified in order to take effect for the delivery of the JOURNAL of the current quarter. If such changes are not notified, Members themselves will be responsible if their JOURNALS fail to reach them through being wrongly addressed, and Officers are requested to write their names, with initials, distinctly on such communications. Several signatures have recently been received which it has been impossible to decipher, and as there are many instances of Members bearing the same name and initials, it is requested, therefore, that they will add their rank. The Council beg to draw the attention of Members, who do not have the JOURNAL sent to them, and have not registered an address with the Secretary, to the fact, that they (the Council) cannot be held responsible if such Members do not receive any notices that may from time to time be sent out.

### XIII.—Letters and Telegrams.

Members are reminded that the Council can accept no responsibility in the matter of letters and telegrams addressed to them at the Institution, and no arrangements are made for the forwarding of Members' letters.

### XIV.—Hiring of the Theatre and Writing Room.

The Theatre and Writing Room are now available for letting to recognized Naval, Military, and Civil Societies. The Council have recently revised the terms, the charges being, for Naval and Military, £2 2s. and £1 1s. respectively; to Civilian Societies, £5 5s. and £2 2s. If these rooms are required for a series of meetings, special terms can be arranged.

**XV.—The Museum.**

The amount taken for admission to the Museum during the past quarter was :—

£110 13 6 in November.  
 £106 1 6 in December.  
 £112 10 3 in January.

**ADDITIONS.**

- (7040—7049). A collection of Weapons, etc., from New Guinea, New Caledonia, Southern India, etc. (See Exhibit card.)—Bequeathed by the late Colonel W. M. M. Jackson.
- (7050). A Special Badge given by F.-M. Earl Roberts when Commander-in-Chief in the South African War to his Yeomanry Escort.—Given by Major-General A. Terry.
- (7051 & 7052). The Queen's and Regimental Colours of H.M.'s 1st Regiment of Native Infantry. These Colours went out of commission in 1867. The regiment was numbered XXI., but in recognition of its services during the Indian Mutiny it was renamed I., and the stitch marks of its old number are clearly visible. The regiment is now designated 1st Brahmins; it was raised in Oudh in 1776 by Captain T. Naylor for the service of the Nawab Wazir; transferred to the Company's service in 1777, and numbered 30th Bengal Sepoys; in 1781 it was designated 23rd Regiment of Bengal Sepoys; 29th Bengal Sepoy Bn. in 1786; 2nd Bn. 9th Regt. of Bengal Infantry in 1796; 21st Regt. of Bengal N.I. in 1824; the 1st Regt. of Bengal N.I. in 1861; 1st Regt. of Bengal Infantry in 1885; and the 1st Brahman Infantry in 1901. The following is extracted from the address by General Tombs, V.C., C.B., to the regiment, when he presented the new Colours to supersede these :—
- “The regiment, which was raised in 1776, a century ago, has on various occasions done good and gallant service in the field, at Laswaree, at the memorable siege of Bhurtpore, in the Nepaulese Terai, in Afghanistan, and more latterly on the N.W. Frontier; but it is of its conduct in 1857 that I wish more particularly to speak now. In that year, when by far the larger portion of the Native Army deserted their Colours and mutinied against the British Government, this regiment (then the 21st N.I.) not only remained faithful, but retained its arms and continued to do good service on the N.W. frontier throughout the mutiny; and surely the men have had their reward, and have it now on seeing themselves the honoured and trusted soldiers of the Crown, and in being permitted to carry the National Emblems of one of the most powerful and most civilized nations of the earth. I feel sure the regiment will never forget the ordeal through which it passed and out of which it came so well in '57.”—Given by Miss Millicent Milne, the youngest daughter of the late Lieut.-General H. Milne, who was in command of the regiment when the new Colours were presented.
- (7053). An ancient Chinese Pocket Compass.—Given by the Right Revd. Bishop Corfe, late R.N. Chaplains Dept., and formerly Bishop of Corea.
- (7054). A raised Plan in metal of the Battlefield of Doiran, showing the trenches, which was made by the men of the Royal Engineers Base Depot, and given to General Sir G. F. Milne.

The neighbourhood of Lake Doiran was the scene of much fighting during the Great War. The 22nd, 26th, and 60th Divisions fought there in April and May, 1917, while on September 18th, 1918, the British took part in the battle which helped to bring about the end of the Bulgarian resistance. The divisions chiefly engaged were the 22nd, 26th, and 28th, containing amongst others the following battalions:—12th Cheshires, 9th South Lancashires, 8th Shropshire Light Infantry, 7th South Wales Borderers; 11th Welsh, 11th Welsh Fusiliers, 8th Cornwall Light Infantry, 12th Hampshires, 2nd King's Own, 12th Argyll and Sutherland Highlanders, 8th Royal Scots, 11th Scottish Rifles, 9th King's Own, 9th East Lancashires, and 8th South Wales Borderers.—Placed on permanent loan by General Sir G. F. Milne, G.C.M.G., K.C.B., D.S.O., Commanding the Army of the Black Sea.

- (7055). A Paper Weight which formerly belonged to Sir Henry Lawrence, and was brought from the room in which he was killed by the explosion of a shell in the Residency of Lucknow during the siege in the Indian Mutiny of 1857 by Captain F. W. Graham, 3rd Oude Cavalry (subsequently Lieut.-General Sir Frederick W. Graham), who took part in the ever memorable defence of Lucknow.—Given by Malcolm G. H. Graham, Esq.
- (7056). A complete collection of Officers' Tunic Buttons worn by Guards and Infantry regiments from 1881 to 1901.—Given by Major H. G. Parkyn, O.B.E., 5th Rifle Brigade.
- (7058). A specimen of the Gift which was distributed to 2,321,553 men in the British Empire wearing the King's uniform on Christmas Day, 1914, from H.R.H. The Princess Mary's Sailors' and Soldiers' Christmas Fund.—Presented by the Secretary of the Fund.
- (7059). An Oil Painting of His Majesty King Charles I., after Vandyke (J. L. Reilly). The frame has been designed by the Curator, and is made from wood obtained from old timber of the roof of Westminster Hall (the place of his trial), which was erected in 1399; at the top is the Stuart Crown, and below are the arms of England of the period; the York and Lancaster Roses are shown on the spandrils of the frame, and at the corners of the frame are the arms of King Edward the Confessor, the portcullis and the Stuart Badges, the Greyhound and the Unicorn; the word "Remember" is painted on the frame. The picture is hung at the side of the window in the Banqueting Hall, in front of which the King was executed.—Given by Lieut.-Colonel R. Shoolbred, C.M.G., T.D.
- (7060). An Inlaid Box made by German prisoner of war, Sailor Rattei, S.M. "Mainz," at Holyport Camp, Maidenhead.—Given by Colonel C. H. Colvin, C.B., D.S.O., Commandant of the camp.
- (7061). A portion of the Regimental Colour of the West Lowland Fencibles which was in use previous to the Union. The regiment was raised in 1793, and disbanded in 1799, and commanded by the Earl of Eglington.—Transferred from the Tower of London.
- (7062). A Bolshevik Lance captured by Carroll's Cavalry at Nigni Toima on August 17th, 1919, in the advance up the River Dvina, by the North Russian Expeditionary Force. — Given by Lieut.-Colonel J. W. V. Carroll, C.M.G., D.S.O., Commanding Cavalry, Northern Russia.

## SECRETARY'S NOTES

- (7063). Three sets of Token Money of base metal used in France by the German prisoners of war, the values being 1 franc, 50 centimes, and 10 centimes.—Given by Lieut.-General Sir H. E. Belfield, K.C.B., K.C.M.G., K.B.E., D.S.O.
- (7065). An Arabian Astralabe (brass), undated. It is 17th century work; the various inscriptions on it in Arabic are directions as to taking observations. A very fine specimen.
- (7066). A Grenadier Mitre Cap of the 3rd Regiment of Foot (The Buffs); it formerly belonged to Colonel William Stiell, who served in the Buffs, 1756-1775. The front of the head-dress is of buff velvet embroidered with gold gimp lace. The Hanoverian Crown is at the top; in the middle is the "Dragon" and the regimental motto; below is the White Horse of Hanover surrounded by the motto: "*Nec aspera terrent*"; the back is of crimson velvet, also richly embroidered; at the bottom is the numeral III. with two devices of crossed muskets and swords.—Bequeathed by Horatio W. Lonsdale, Esq.
- (7067). Infantry Officer's Sword of the period of 1760, which formerly belonged to the above-mentioned Colonel William Stiell.—Bequeathed by Horatio W. Lonsdale, Esq.
- (7068). A Midshipman's Dirk of the Hon. East India Company's Navy.—Bequeathed by Horatio W. Lonsdale, Esq.
- (7069). An Oil Painting of the late Field-Marshal Earl Roberts, V.C., K.G., K.P., G.C.B., O.M., G.C.S.I., G.C.I.E., and a Vice-President of the Institution, mounted on his favourite Arab charger, by Captain Adrian Jones, M.V.O., painted in 1914. (Purchased.)
- (7094). Portion of the Regimental Colour of the 62nd Regiment, previous to the Union.—Transferred from the Tower of London.
- (7095). Note for 50 pfennigs issued by the Germans at the Prisoners of War Camp, Stendal, representing a week's pay.—Given by Lieutenant G. C. Davis, 4th Bn. Loyal North Lancashire Regiment.

The attention of Members is drawn to the Museum Purchase Fund.



# **THE JOURNAL**

OF THE

## **Royal United Service Institution.**

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### **GERMAN NAVAL PROPAGANDA.**

By DAVID OGG, ESQ., Fellow and Lecturer, New College, Oxford.

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On Wednesday, November 19th, 1919.

SIR JULIAN CORBETT, LL.M., F.S.A., in the Chair.

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THE CHAIRMAN: Gentlemen, it is my privilege to-day to introduce my friend, Mr. Ogg, of New College, Oxford, and I do so with a great deal of pleasure, as he has for some time, as a volunteer, been acting as a colleague of mine in the Historical Section of the Committee of Imperial Defence. I at least can say I have always found him worth listening to. The subject of the lecture calls for very little remark. Propaganda as a weapon of war has, I suppose, always existed. We do not know how far we can trace it back, but we do know that Napoleon made great use of it. We also know that, during this war, it has been raised to a position of importance such as it never had before, and therefore I think no apology is required for Mr. Ogg's lecture. I believe there are many people in Germany who are now saying that propaganda won the war, and that being so, I think we can all regard it as a subject which is worth serious study by this Institution.

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### **LECTURE.**

A PERUSAL of the catalogue of German propaganda publications, compiled by Dr. Chalmers Mitchell, will reveal how enormous is the mass of literature inspired in Germany by the war, and already attempts have been made to classify the books in our own language

which owe their origin to a similar inspiration. A certain number of these books have for some time been available to readers at the Admiralty Library, and it is hoped that soon the majority of foreign propaganda books may be accessible in the more important public libraries. The British Museum has already formed the nucleus of such a collection. Most of the copies at present available in the Admiralty Library were intercepted in the post during the war. My main apology for the somewhat scrappy nature of this lecture is that I have not had the opportunity of consulting all the books which might with advantage have been utilized, and no one could be more conscious than myself how fragmentary and incomplete this lecture is.

I think most of us would agree that the class of men whom we designate "book learned" has always played a much more important part in German public life than it has in England, and it would also, I think, be accepted that the general reading public is a wider class in German and Scandinavian lands than it is in England. Respect for the printed book probably plays a more important part in the education of the average German than it does in the training of his English contemporary. In matters of naval propaganda this contrast is more clearly evident. Our seamen are the most reticent section of the community, and, considering Britain's importance as the greatest naval and maritime power in history, it is extraordinary how little, even nowadays, the average Englishman knows of the Navy and Mercantile Marine. They do not advertise; in peace times their officers generally wear civilian clothes. They do not write much about themselves, and what others write about them is often left unread, as the British public has a preference for first-hand sources of information. But it is otherwise in Germany. The literary bent is found even among her naval officers, her reading public is wide and patient enough to continue reading a book even after it has ceased to interest, and her publicists, whose decrees have an almost *ex cathedra* sanction, are ever ready to start where her naval officers have left off and supplement by erudition and eloquence any reticence which the professional seaman may have displayed.

Another point of contrast is that, while we have always tended to take our naval strength and our seamen for granted, the Germans have made much of such purely sentimental things as the supposed Viking element in Teutonic ancestry, and many incidents in their naval warfare, which we should take in a very matter of fact way, have been viewed by the average German through an atmosphere of romance. This is, perhaps, due to the fact that up to the outbreak of war, the German Navy was a new and untried force, of which, however, great things were expected, and human nature has ever had a tendency to laud the young and hopeful at the expense of the old and established. Hence one is struck by the large amount of versifying—poetry would not always be the most suitable term—in German naval propaganda books. Abundant specimens might be quoted from writers of all types—from bluejackets to professional poetesses—but I shall not inflict any of these upon you. It is not without interest, however, that the Germans should thus closely associate maritime

achievement with poetry, and that they, rather than ourselves, should tacitly claim to be the literary executors of that great imaginative inheritance bequeathed in the epic of Beowulf and in the Anglo-Saxon lyrics of the "Seafarer" and the "Wanderer."

I have hinted that most of Germany's naval propaganda work was carried on by the published book, and I have ventured to suggest that the printed book is a more potent weapon in Germany than in England. Without exception all my quotations will be from such sources. At the outset one is faced with the question—what is the value of these books as historical evidence? Now, in attempting to consider this question, one cannot help being impressed by the diversity and multiplicity of the sources which may legitimately claim to rank as historical evidence in any complete history of the war. This is not merely due to the fact that the war has surpassed in magnitude any previous war, but because the uses of telegraph and wireless have placed at our disposal means of inter-communication so secret and so rapid that in many cases they supersede all other and older methods of communication. For the purposes of the historian, however, this is not an unmixed blessing. The telegram or wireless telegraph message has none of the individuality which may permeate the despatch. As it comes from the executive authority, it is written in telegraphese, not in English, and by the time it has been cyphered and decyphered it frequently contains so many ambiguities that something has to be left to the common sense of the recipient.

On the historian, therefore, is incumbent the initial duty of sorting out from the enormous bulk of war telegrams those which will be of direct value as supplying or confirming information on all points of detail. But, as well as providing the scaffolding of the historian's structure, the war telegrams often contain a far better clue than does the printed book even to the strategy of a campaign. This is specially true of combined naval and military action in a distant theatre of war, for Generals and Admirals may frequently be called upon to telegraph opinions on important questions of policy, and the historian has therefore to determine how far the course of a campaign may have been influenced by this reply-paid system of strategy. But this is taking me away from the subject on hand.

This digression leads me to my main premise—namely, that as a source of authentic information, the telegram, during the war, has tended to displace, in bulk certainly if not in value also, every other possible source. The fact must first of all be admitted that non-official war books, whether English or German, while they may be of great literary merit and actually based on a good deal of fighting experience, are not of very much historical value. This is because secrecy is even more than before a paramount essential in modern warfare, and the bystander, recording his personal impressions of a great campaign, may see only a sector of the whole truth. The historian, therefore, incurs greater responsibility than did his predecessors, for not only has he a much larger mass of material from which to select, but he can use the printed book only in so far as its statements are corroborated by other and more authentic evidence.

This is specially true of books which are compiled and published for definite propaganda purposes. It has just been said that the very youth of the German Navy, the subordinate position it has always held in comparison with the Army, and the world-wide prestige of the force against which it was pitted in the war, all combined to make it a most suitable subject for enterprising advertisement. Hence, incidents such as the escape of a solitary ship through the blockade, or the successes of an individual submarine, are assigned an entirely distorted importance, the chief implication being that the myth of England's naval invincibility has been destroyed, and that Germany has at last proved her right to be considered a first-class naval Power. But here it is well to distinguish between the early and later propaganda books. The books dealing with the cruiser warfare, 1914-1915, and the earlier manifestations of submarine activity, are for the most part uncoloured by gross exaggeration or by venomous hatred; but it is noticeable that the propaganda books produced after the Battle of Jutland are sometimes so exaggerated as to border in turns on the ridiculous and the hysterical. Thus we find a great difference between the sentiments contained in the biography of Otto Weddingen, who acquired such sudden fame in Germany after the sinking of the "Hogue," "Aboukir," and "Cressy," and the sentiments of a later book like that of Steinwager—"The U-Boat, England's Doom."<sup>1</sup> The former book, in the "Marine Dank" series, is an interesting account of Weddingen's career, and, while apotheosing his virtues as submarine commander and laying special stress on his chivalry, is not characterized by any very marked hatred of England—except that the mystery of Weddingen's death is attributed to English blood-thirstiness on the high seas—and it leaves the English reader with a rather more favourable opinion of both Weddingen and this class of biography. The other book—that of Steinwager—is of a very different character. It is obviously written by a Prussian publicist of the Lissauer type, and its author simply gloats over the figures by which he proves that, thanks to the submarine, England's doom is only a question of time. This publication is a curious example of how in certain abnormal circumstances a man may suddenly shed the thin skin of convention and revert to something more primitive. In 1916 and 1917 conditions were certainly abnormal for Germany. Her territory was free from invasion, her armies were holding, by a seemingly impregnable wall of steel, a world of enemies, and in the submarine she seemed to possess the weapon which must force England to her knees. The failure of that weapon to effect its purpose contributed in large measure to the sudden and almost unexpected break-up of Germany in the autumn of 1918.

Thus, it is possible to trace, from a study of these German publications, something of the gradual disintegration of German *morale* during the course of the war. For this reason I am inclined to hazard the opinion that such books are of more value as psychological studies than as sources of historical evidence. This is the point of

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<sup>1</sup> L. Steinwager: "U Boot, Englands Tod!" (Munich, 1917).

view I have taken throughout, and I shall endeavour to illustrate it in the course of the lecture. I cannot presume to a knowledge of the whole body of German naval propaganda books—my selection of such books as I quote may seem very haphazard—but I am convinced that only a minority of these books can profitably be read now, and that the majority supply us with very little information which we cannot obtain from other sources. It is my duty, therefore, to endeavour to show, by giving extracts from these books, what justification there is for my hypothesis that their interest is more psychological than historical.

First of all I shall bring before your notice a German account of the loss of one of our own ships. This consists of plain narrative and has little ulterior intention, a class of literary propaganda which is comparatively small. The extract which I am about to read is from the German book, "*Submarine versus Submarine*,"<sup>1</sup> and is a fair sample of straightforward enemy intelligence regarding losses of H.M. ships. The English submarine referred to was the "E.20."

"The plague of English submarines in the Sea of Marmora was every day becoming more troublesome. The transports from Constantinople to Gallipoli were constantly being menaced by them. The British submarines must be exterminated; the only question being, how? Some had already been destroyed by Turkish gunfire, but others took their place. They lay under the lee of the islands, got their provisions from fishing and sailing vessels and sank everything that happened to come within sight of their periscopes. They would then disappear, to be replaced by others or return after replenishing their supply of ammunition. One of them had the impudence to proceed up to Constantinople in broad daylight and fire a torpedo at an empty tug boat.

"Hitherto only British submarines had been seen. The first French boat to appear in the Marmora was the 'Turquoise,' which, thanks to bad navigation, first went aground when submerged and then stranded. She was captured by the Turks almost undamaged and taken to Constantinople.

"Needless to say, the boat was very carefully searched, and a book was found in the commanding officer's cabin in which he kept a daily record of events. From this we learned that the 'Turquoise' had rendezvoused at certain times with three other boats which were also in Turkish waters.

"I was ordered to put to sea at once and attempt to meet one of the enemy submarines at the rendezvous indicated in the notebook. We left Constantinople at midnight. In the morning I submerged so as not to be sighted by enemy submarines. Unfortunately I missed the rendezvous for the forenoon, so I proceeded submerged at half speed in order to be on the spot in time for the rendezvous fixed for the afternoon.

"Punctually at the appointed hour—4 o'clock—the officer of the watch reported, 'A conning tower, Sir.' With a bound I was at the

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<sup>1</sup> Von Heimburg: "U-Boot gegen U-Boot."

periscope, examining a dark patch showing up under the land. It is very difficult to make out an enemy submarine at a distance as the conning tower is so small and scarcely visible against the background. I could make out the land quite easily in the absolutely clear air, and had the periscope raised so that I could see better. Nevertheless, it seemed to me as though the object in question could not be a submarine. As was my usual custom, I looked all round, and in another direction saw a spot which seemed to me much more suspicious. It was a small grey patch which could just be distinguished more or less with the high magnification. Soon I saw that it was a submarine with her tanks fully blown. She was still a long way off, and I could only just make out the superstructure and conning tower. The sea was as smooth as glass.

"The most important thing now was to avoid being seen myself, so we lowered our periscope and proceeded submerged at utmost speed. On looking again through the periscope I could see that the boat had not moved. I took a bearing and set my course. The whole crew was naturally on the alert, and everyone was straining with excitement. The chance of firing on a submarine was a new one and filled them with great glee.

"Thus things went on for about an hour. At 5 o'clock we were still 2,500 metres distant from her. I ordered the torpedo to be got ready for firing at 1,500 metres, and we proceeded for ten minutes more.

"'Torpedo tube ready, raise periscope.' As the periscope rose the zero line was just abaft the enemy submarine's conning tower. 'Fire!' The navigating warrant officer, standing below me in the conning tower, pressed a button, there was a hissing sound and the torpedo was on its way.

"I could see the course of the torpedo quite clearly as it ran towards the Englishman. A second later we heard the explosion, which was drowned by a resounding cheer from all our men and in which I joined. At the spot where the boat had been, a huge cloud of vapour rose from the water. A moment later it had faded away and there was nothing more to be seen.

"We came to the surface and I climbed out of the conning tower to look for the *débris*. There was only an enormous patch of oil to be seen in which various black specks seemed to be moving. It appeared to be impossible that anyone should have escaped alive. With the help of my glasses I ascertained that the black specks, which looked like flies crawling in the soup, were really men. When we got up close enough I asked them how they were feeling. 'All right, Sir,' they spluttered. I helped them to climb on board and they came up dripping like poodles. One of them begged me to go as fast as possible to the assistance of the commanding officer, who had two men with him unable to swim. So I went in their direction and took them on board also. I asked, 'Which is the Captain?' In reply, the one who looked the worst of them all and had a stubbly growth of beard, introduced himself. It was now becoming dark, and I therefore returned to Constantinople on the surface. The Englishman, after standing beside me for a while, remarked that we had

made a very good shot. We were certainly feeling far from down-cast about it. Each of the prisoners was given a woollen blanket and dry clothes. To prevent any foolishness on their part, we put them all together and a man with a loaded revolver in front and one behind. The English commanding officer looked extremely depressed. As I was anxious to cheer him up, I talked to him and asked him how he got through our net. He told me that he had charged into it at full speed and had torn it. But how had I got through his net? I smiled and said that I too had charged into it at full speed and, strange to say, it also had torn. Neither of us, it may be gathered, was speaking the absolute truth. He would not tell me where he obtained supplies. His boat was quite new and had made her maiden voyage out by Gibraltar. I could not refrain from telling him that he had his French colleagues to thank for his fate as we had captured the 'Turquoise' intact and had found notes of the rendezvous on board. He was absolutely thunderstruck by the news. As soon as the three English officers thought they were unobserved they began to abuse their comrades of the 'Turquoise.' Unfortunately I did not know where the Frenchmen had been sent to, or I should gladly have told him that too.

"Meanwhile we sent a wireless message to Constantinople reporting our success. On our arrival there we received a great ovation. The Admiralty staff officer came out to meet and congratulate us, and was amazed to hear that we had nine prisoners on board. We then handed over our prisoners and made fast at the Golden Horn."

In the same book there is an interesting account of the destruction of our submarine "E.7" in the Nagara Net, September, 1915, and is important as showing what our Eastern Mediterranean submarines had to contend with. The author relates how he was discussing his experiences of English anti-submarine nets when he was interrupted by Prince Reuss, who said: "Heimburg, do you know that we have caught one too? She has been sitting in our net near Nagara since 6 o'clock this morning. At first she danced like mad and tried to free herself, but for the last hour she has been quite quiet. So the Englishman had sat unharmed for five hours in the net—it was now 1 o'clock—and it was to be hoped that he had not succeeded in breaking free.

"During the afternoon the wind gradually died down and finally sank altogether. The channel between the Asiatic and European sides was as smooth as glass. It was quite light when we reached the net. I ordered our explosive-charge expert—the cook, Herzig—to get the charges ready. The place was very narrow and one glance sufficed for its survey. The buoys to which the net was attached lay still and only moved gently with the current. A motor-boat had been waiting all day to greet the submarine if she came to the surface. Attempts had been made to search for the boat with hawsers, but the current was too strong and the apparatus was dragged away. The depth was thirty-two fathoms.

"Prince Reuss was in charge of the operation, while the rest of us were merely spectators. We had two motor-gunboats and a small tug from which the operations were to be conducted.

"First of all we tried to find the position of the boat by sounding. This attempt was successful. Herzig, who was taking the soundings, suddenly shouted: 'I've got her—she is there, I can feel her distinctly.' Forty metres of line were measured—for the boat was at that depth—and an explosive charge was attached to the rope. The fuse at the top was then set and the charge dropped to a depth of forty metres. Exactly at the appointed time there was an explosion. A short, dull report rose, as from the shaft of a mine, there was a roar, and the water formed a small hill.

"We eagerly waited for what would happen next. It was becoming dusk, but nothing happened. The water was as smooth as glass, the buoys did not move. We therefore decided to send to those down below a second invitation to come up and join us. Ten minutes later, therefore, a second explosive charge was prepared. Just as we were about to drop it, the water appeared to become darker in the centre; there was a gleam of grey-green, something round came up which proved to be the conning tower, and finally the boat herself appeared.

"There was a roar from the gunboats the very moment that the longed-for one appeared. One round struck the conning tower, another pierced the tanks. At the same moment the conning tower hatch opened and two Englishmen appeared holding up their hands. Firing ceased and all the vessels made for the submarine at full speed. One after another her crew appeared on the conning tower and climbed on to the tug lying alongside.

"The prisoners were taken to Tschanak-Kale. The commanding officer told me that he had run into the Turkish net at 5 in the morning and had tried every means to get through, but the wire had fouled his propeller and so he was obliged to give it up. He had decided to keep quiet all day and to come up at night and swim ashore with his men. I told him later that I had got stuck in a British net three days earlier. He seemed very much astonished, and asked how I managed to extricate myself. I merely smiled and said: 'It was quite simple; I just took their net with me.'

"As a matter of fact it had not been quite so easy, but there was no occasion to let him know that.

"We returned to Constantinople and reported to the admiral, who invited us to supper on board the s.s. 'General,' in which he was living. Before this we had a delightful surprise—the entire crew had been decorated with the Iron Cross."

The books to which a definite propaganda purpose can be assigned might be divided into four classes according as they deal with, first, the cruiser warfare in the earlier part of the war; second, the blockade runners; third, submarine activity; and fourth, the Battle of Jutland, or Skagerrak, as it is termed in Germany. I propose to deal with

each of these episodes in the order named, according as they can be elucidated by a study of German propaganda literature.

First, the cruiser warfare. The exploits of the "Goeben," "Breslau," "Emden," "Dresden," "Karlsruhe" have each provided material for separate monographs. That on the "Emden," by Kapitänleutnant von Mücke, loses much of its value from the fact that just before the fight with the "Sydney," the author was sent ashore with a party of three officers and forty men to destroy the wireless telegraph installation on Keeling Island, and so did not take a part in the closing scenes of this cruiser's career. He gives, however, some incidental information regarding the war on English trade so consistently and successfully maintained by S.M.S. "Emden" in the Pacific and Indian Oceans throughout the autumn of 1914. Von Mücke, in common with the personnel of his ship, does not seem to have been inspired by any intense hatred against the enemy, and, indeed, he was obviously rather proud of the fact that the "Emden's" captain had a very high reputation for courtesy and humanity in dealing with his prizes. He goes a little too far, however, in saying that towards the end of 1914 the "Emden" was the most popular ship in East Indian waters.<sup>1</sup> This view is rather one-sided. He adds also that the English never could understand the complexities of international warfare, and that they could appreciate the conduct of Captain Müller only because of their sporting instincts. With this opinion one is less disposed to differ.

The volumes on the "Goeben" and "Breslau" are of more importance. We are told of bombardments of Bona and Philippeville, of hesitations on the part of Admiral Souchon as to whether he should make for the Straits of Gibraltar or for the Dardanelles, of ruses whereby the English fleet was dodged, of the vain but heroic pursuit by the "Gloucester," and the hairbreadth escape into Turkish waters. To recapitulate these by extracts would, however, take too long. The later activities of the "Breslau" in the Black Sea have been described in a book by Lieutenant Dönitz, which, however, does not call for any special mention here.

It is not an altogether superfluous task to examine the German accounts of the "Dresden" and "Karlsruhe," because the termination of the latter's career was for some time a matter of obscurity, and the destruction of the former was advertised by the enemy as a breach of international law. To consider first the case of the "Dresden." Vol. IV. of the "Marine Dank"—a series devoted to naval propaganda books—contains an account of this cruiser's short-lived but dramatic career. In the earlier part of 1914 she was engaged on the Mexican coast to act in defence of German subjects who might suffer through the revolution in Mexico, and was in Port-au-Prince late in July. On the declaration of war she sailed south in order to intercept English trade with South American ports. The sailing orders do not appear to have been known to anyone except the captain, but commerce destruction was certainly the main object, and the anonymous

<sup>1</sup> Von Mücke: "Emden" (1916), p. 33.

author notes with satisfaction that very soon the insurance premiums for English ships on the South African trade advanced very rapidly at Lloyd's. English ships with neutral cargoes were, however, spared.

It was ascertained, mainly by newspapers taken from the prizes which fell to her share, that the "Karlsruhe," "Kronprinz Wilhelm," and "Cap Trafalgar" were carrying on a successful war against English trade in the Atlantic, and, with the "Monmouth," "Good Hope," and "Glasgow" on her tracks, the "Dresden" went through the Straits of Magellan and proceeded north along the Chilian coast. She fell in with R.M.S. "Ortega," which found safety in flight. On October 12th she was joined by the "Scharnhorst," "Gneisenau," and "Nürnberg," and a few days later by the "Leipzig," all five ships cruising for some time south of Valparaiso in order to engage the English ships when they should leave Coronel, where they were coaling. The Battle of Coronel lasted fifty-two minutes, resulting in the loss of the "Monmouth" and "Good Hope," and when the "Scharnhorst," "Gneisenau," and "Nürnberg" left for Valparaiso, the "Leipzig" and "Dresden" were detached by Von Spee and ordered to cruise in vicinity of Coronel, with a view to intercepting the "Glasgow."

But the "Glasgow" had escaped, and on November 13th the two outpost ships went to Valparaiso for coal and repairs. There they received a very cordial reception from the enthusiastic German colony. On November 25th news was received by wireless telegraph that for his services at Coronel, Captain Lüdecke, of S.M.S. "Dresden" had been awarded the Iron Cross. It was now realized by the ship's company that the bubble of English naval invincibility was exploded. The explosions of this particular bubble in German naval propaganda are almost continuous in their frequency.

The "Dresden" now returned to the South Atlantic by Cape Horn, her aim being to cut off the English meat trade from the River Plate. The "Gneisenau" and "Nürnberg" had been sent in advance and had already given warning of the presence of the "Canopus" and ships of the "Cornwall" class. Von Spee had no knowledge of the presence of the "Invincible" class ships which had already arrived in Port Stanley. But, conjectures the anonymous historian of the "Dresden," the admiral must have concluded from the newspapers at his disposal that, in defence of her Southern Atlantic commerce, England had already despatched a portion of her East African Squadron. This was found to be so on the eve of the battle, but, our German authority tells us, the discovery had no influence on the decision of Von Spee, who resolutely attacked in the face of hopeless odds.

In the course of the Battle of the Falkland Islands, Von Spee ordered the "Dresden," "Leipzig," and "Nürnberg" to separate and scatter while he engaged the English ships with the "Scharnhorst" and "Gneisenau." The "Nürnberg" and "Dresden" tried to take the burning "Leipzig" in tow, but in vain, and the "Dresden" escaped in a snowstorm. Shortly afterwards she learned by wireless telegraph that the "Scharnhorst" and "Gneisenau" had been sunk, but of the "Nürnberg" and "Leipzig" she had no news, and in her race towards Cape Horn she was pursued by three ships—the "Bristol,"

a ship of the "Invincible" class, and one of the "Cornwall" class. She claims to have baffled her pursuers by navigating devious and unusual channels. She took refuge in Punta Arenas, where the "Bristol" and "Glasgow" also called, but the English ships sailed again before the German.

The details given with regard to the subsequent activities of the "Dresden" are somewhat scanty. In the latter part of February, 1915, we find her cruising off the coast of Chili, sinking several valuable cargoes. Her chief difficulty appears to have been the coal supply, and early in March H.M.S. "Kent" got on her tracks. This induced her to seek refuge in Cumberland Bay, just behind Robinson Island, where she remained "cleared for action." On the morning of March 14th three English ships appeared, and, after manœuvring, they opened fire on the "Dresden" which was at anchor and without any head of steam. With 15-inch shells falling amidships, Captain Lüdecke made preparations for the blowing up of his ship, and meanwhile he entered into a parley with the commanding officer of the "Glasgow," to whom he protested against this violation of neutrality. The English captain declined any further discussion; he had orders to destroy the "Dresden" wherever found, and all diplomatic considerations must be regulated by the authorities concerned. These words, says the German writer, "should be written in letters of blood." On returning to his ship, Captain Lüdecke found that the preparations for destroying the vessel were complete, and shortly after the last boat-load had left the ship, the "Dresden" blew up. The casualties were five dead and a small number wounded.

Among the documents quoted in the latter part of this book there is an extract from a report by the correspondent in Valparaíso of the *Hamburger Nachrichten*. The report reads as follows:—

"Inhabitants of the island relate that English naval officers were seen to come ashore in the afternoon in order to collect shell-splinters, and they even gave money to the inhabitants for such souvenirs."

The sinister implication of such a statement is obvious. But in this German version of the "Dresden's" career which I have tried to summarize, I would point out at least one inconsistency. It is distinctly stated that while the "Dresden" was in Cumberland Bay she was "*klar zum Gefecht*," which must surely mean that she could be got under way at short notice, and yet emphasis is laid on the very helplessness of the ship when attacked—she was at anchor, she had no head of steam on and so could neither manœuvre nor escape. Moreover, it is a characteristic of many German propaganda books that their omissions are often as important as their inconsistencies, and so it must always be in such cases of special pleading.

The account of S.M.S. "Karlsruhe" is by the first officer, but he does not append his name to the title-page. She was one of the newest of her class, and in the summer of 1914 was ordered to relieve the "Dresden" on the east coast of the American station, and, in accordance with these instructions, she proceeded to the West Indies. An exchange of captains took place in Port-au-Prince, Köhler assuming command of the "Karlsruhe." It was originally intended that she

should carry on with the duties which the "Dresden" had been performing in Mexican waters, but the news from Europe was so ominous that she proceeded instead to Havana in order to get into touch with the German Consul.

On the news that war had been declared, Captain Köhler broke the seal of his confidential orders, and in the presence of his officers announced that his orders were to wage war against enemy commerce in mid-Atlantic, the details of such warfare to be at his own discretion. The ship then proceeded north and east, and at 6.30 p.m., August 6th, when in 28°40' N., 72°30' W., an English cruiser of the Town class was sighted which immediately gave chase. Thereupon, according to the German account, there ensued a running fight, lasting for about three-quarters of an hour, when the "Karlsruhe" managed to out-distance her opponent and escape to the northward. No damage resulted from enemy shells on the German ship. It was afterwards ascertained from the captain of a captured merchant ship that the pursuer was H.M.S. "Bristol."

There are very few details in this volume of the war against commerce. A good many colliers came her way, and the "Karlsruhe" used one of them—a 7,000-ton vessel named "Farn"—as a stationary coaling ship to which she returned when necessary. Two other captured ships—the "Rio Negro" and the "Indrani"—were fitted out as auxiliaries, and these vessels were in company when the German cruiser came to her sudden and unexpected end. I have thought it advisable to give the German version *verbatim* :—

"On November 4th, 1914, 'Karlsruhe,' with her two auxiliaries, was in position 11°7' N. 55°20' W., proceeding from Maraca Roads to the West Indies, when at 6.30 p.m. a violent explosion occurred in the forward part of the ship. A cloud of black smoke belched upwards from the bridge, followed by a flash of fire from the decks, and shortly afterwards the whole forward part of the ship was rent apart and sank, carrying with it bridge and foremast, while one funnel collapsed on the port side. Had it not been for a deck load of about 100 tons of coal on the after part of the ship, the forward part would have sunk much more rapidly than it did. Two boats were lowered, and, together with a third sent by one of the auxiliaries, all the survivors of the disaster, including those swimming about in the water, were got away and taken aboard the 'Rio Negro.' Captain Köhler, the officer of the watch, and 259 petty officers and men perished. The high percentage of casualties was due to the fact that the explosion occurred when all the men off watch were having their supper in the forecabin and most of the deck-officers were in their various messes."

The first impression of the author of this account was that the ship had been torpedoed. Rushing on deck, however, he heard someone shout that the oil-tank had exploded. This was confirmed by the fact that a dense black smoke completely obscured the moonlit sky and the air was filled with the smell of burning oil, some of which could be seen flaming on the surface of the sea. The commanding officer had been last seen on the bridge, and as there was strong

presumptive evidence that he had been killed, the first officer took charge of the sinking ship and busied himself with getting away the survivors, some of whom were badly wounded.

When the rescue work was completed, a council of war was held in the saloon of the "Rio Negro." The chief officer was at first in favour of making for neutral Italy through the Straits of Gibraltar, but afterwards it was determined to make an effort to break through the blockade line off the coast of Norway. The "Rio Negro" then coaled from the "Indrani," and, avoiding the trade routes, crossed the Atlantic, arriving off the north-west coast of Ireland on November 23rd. Six days later she reached Aalesund, and on the following day left for Stavanger. On December 5th she fell in with German outpost ships south of the Drogden light vessel and had her first real scare when warned to keep a sharp look-out for enemy submarines. She eventually reached Kiel, and her ship's company received a letter of Imperial thanks. They might well be congratulated, for their voyages had constituted a veritable Odyssey, and the short but hectic career of the "Karlsruhe" must compare with that of the "Emden" in the success of its achievements at the expense of English trade and in the dramatic suddenness of its end.

Generally speaking, just as Germany's cruiser warfare in 1914 was her least reprehensible and least inglorious form of maritime activity, so the propaganda literature which seeks to commemorate the episodes and achievements of that period is, for want of a better word, the most respectable of all the books which we are called upon to consider. After all, it was a more or less legitimate warfare, conducted on comparatively humanitarian grounds. When we come to consider the literature of the blockade-runners we are in surroundings where a sense of perspective seems to be lost, and where comparatively trifling successes are estimated out of proportion to their results. It does not seem to have been realized that the fact of one solitary ship passing through the blockade was merely the exception that proved the rule, and a good stock of common sense would have prevented the German nation from assigning so much importance to these hazardous but very isolated exploits. It is true that when, on two occasions the "Möwe" broke through the blockade she did so in order to wage war on our mercantile marine—an enterprise which she carried out with very considerable success—and when the "Marie" managed to escape from our armed boarding steamers, she was able later on to land her cargo of much needed munitions at Sudi Bucht, in German East Africa, and so prolong the resistance of the last German colony to fall into our hands. It must be admitted that the account of his exploits as commanding officer of the "Möwe" by Graf von Dohna Schlodien is well worth perusal by any student of recent maritime history. A somewhat heartless cynicism, however, now makes its appearance in German propagandist writing, and perhaps only a Teuton could fully appreciate the humour of printing on one page a menu card from the saloon of the "Appam" just before her capture, and, on the reverse, the menu card in the same

saloon on the day after capture. To derive enjoyment from the contrast between an eight-course dinner and a supper of tea and bread is but an elementary form of humour and not always in the best taste.

The voyage of the "Marie" with a cargo of munitions for German East Africa is described in Selow Serman's "Blockade Breaker" (1917). On page 31 there is an account of how the ship was stopped by a British destroyer when passing through the blockade line and how she was saved only by the unexpected appearance of a "U"-boat, which torpedoed the destroyer. After landing her cargo at Sudi Bucht, the ship had to run the gauntlet of British ships in order to reach the open sea, and was eventually interned in Batavia. Captain Sörenson, with two sailors, managed to escape, and claim to have reached the Philippines in an open 24-foot sailing boat, arriving in Manila April 2nd, 1917; but it does not appear that they were able to effect their return to Germany during the war.

The exploits of the "Ayesha" and the "Tinto" as blockade-breakers are much less important than either the "Möwe" or the "Marie," but it is interesting to note how much capital was made out of them by the German Propaganda Press. It will be recalled how, just before her destruction by the "Sydney," the "Emden" sent ashore Lieutenant von Mücke with a party of about forty-five to destroy the wireless telegraph station on Keeling Island. Mücke and his party, on learning the fate of the "Emden," proceeded to commission a sailing vessel of about ninety-seven tons, named the "Ayesha," probably with the intention of sailing to Tsing Tao. They reached Padang, and there they learned that Tsing Tao had fallen, so it was decided to make for the Red Sea. The "Ayesha" then fell in with the "Choising"—one of the "Emden's" prizes, and on December 16th, 1914, Mücke and his company transferred to the "Choising" and sank the unseaworthy "Ayesha." The commanding officer had considered the alternative of joining the "Königsberg," but he could obtain no news of her whereabouts, so course was shaped for Hodeida in the belief that the Straits of Bab-el-Mandeb were patrolled by only two British gunboats and the auxiliary cruiser, "Empress of Russia." He managed to pass into the Red Sea, sailing at night close under the African shore, and as it happened to be a Sunday night he attributed his success to the English habit of slacking off during the week-ends<sup>1</sup>—a habit which even in war they could not entirely break off! The "Choising" was then abandoned, and, by alternate marching and the use of dhows for coastal navigation, the party eventually reached El Weg, where they entrained for Constantinople, and then left for Germany by the Balkan Zug. Von Mücke's account of his adventures obtained such popularity in Germany that no less than 250,000 copies of his book were sold.

In passing, it may be noticed that some historical importance attaches to the escapades of survivors from the "Emden." With the exception of the "Ayesha" party, most of them were interned

<sup>1</sup> Von Mücke: "Ayesha," p. 88.

in Singapore, but one of them—Lieutenant Lauterbach—managed to escape during the mutiny at Singapore early in 1915, and commemorated his adventures in a book with the somewhat lurid title, "One Thousand Pounds Head Money, Dead or Alive"<sup>1</sup>—a book which throws some interesting side-lights on this, perhaps the most serious mutiny with which we had to contend during the war.

The only other blockade-breaker calling for special mention is the "Tinto," a barque of about 460 tons. In his book, "The Viking Cruise of the 'Tinto,'"<sup>2</sup> Carl Richarz popularized in Germany this somewhat trivial incident. The idea of risking a trip to Germany came to the author when he was in Valparaíso, and was inspired mainly by the enthusiasm prevailing in the German colony over the mighty deeds of the German Fleet at the Battle of Jutland. He found willing helpers among the cadets of the training ship "Herzogin Cecilie," who were tired of kicking their heels in Guyacan Harbour, and, after several unsuccessful efforts, they managed late in 1916 to commission the "Tinto" for the voyage home. Having squared the Chilean Customs authorities, they proceeded to sea, and, after an uneventful voyage, they reached the blockade line between the Scottish and Norwegian coasts late in March, 1917. Two English ships were sighted—one a cruiser, the other an auxiliary—and the account of what happened is best given in the words of the author:—

"Already we imagined ourselves on board the English warship and heard the brisk order given: 'Shape course for Kirkwall.' But we at once resolved to do everything in our power to bring the enterprise to a successful conclusion. We must do all we could to avert suspicion and appear as utterly unconcerned as possible . . . . When I went up on deck the transformation of the 'Tinto' into the Norwegian barque 'Eva' was complete. The next thing was to unship the wireless telegraph aerials. There was not a minute to be lost, as at any moment the wires might be seen by the two vessels which were now rapidly approaching. The wireless telegraph operator was then ordered to throw his installation overboard, and one of the cadets was despatched to bury all the journals and diaries under the ballast. Our German books—in fact everything in German—I stowed away in a dark corner.

"The warship on our starboard quarter was now seen to be the 'Minotaur,' the other ship, on our port, was a vessel of about 3,000 tons and was proceeding on the same course as ourselves. The latter vessel now hoisted the signal: 'What ship?' and in a slow, lazy way, as if to confirm us in our assumed rôle of phlegmatic Scandinavians, we hoisted the reply: 'Eva, of Longsund.' The next question was about our cargo, but we had no trouble over that as we were obviously in ballast. Then came the question: 'From what port?' 'Birkenhead,' was the unblushing but lucky rejoinder. The English ship next asked to what port we were bound, and Christian-

<sup>1</sup> "£1,000 Kopfpfeis, todt oder lebendig."

<sup>2</sup> "Die Wikinger Fahrt der Tinto" (1917).

sand seemed the most obvious suggestion. The questions about tonnage and date of departure caused no difficulty.

"So far no order to heave-to had been given. In the next few minutes daylight Morse signals were exchanged between the 'Minotaur' and the armed boarding vessel. These moments seemed endless to us. What would they decide? Suddenly the boarding vessel altered course and made off, while the 'Minotaur' made as if to pass us. This seemed a good augury, and, in order to maintain our appearance of absolute assurance and indifference, the Norwegian flag was dropped three times as the English vessel passed close on our starboard. Then a thing happened for which we could never have dared to hope—the 'Minotaur' slowly dipped her flag to the deck in recognition of our salute. We almost yelled with delight, but managed to restrain ourselves. Our remaining supply of alcohol was broached and each man had his share of brandy or red wine, while our dinner of salt beef never seemed so tasty as it did that day."

Coming now to the third section—books about the submarine campaign—we find a considerable amount of propaganda literature, and the importance of these books in sustaining German opinion at home can hardly be overestimated. Financiers and naval experts combined to popularize the theory that by the submarine blockade England's downfall was only a question of time. The doubting Thomases could obtain convincing proof of this comfortable doctrine by reading a book, "Die Aushungerung Englands," by Privy Councillor Dr. Seib—a book based on documentary evidence and costing only fivepence. The very serious nature of this menace it would be folly for us to underestimate, and the Germans were unsparing in their use of it for propaganda material. One of the most unscrupulous instances—that of Steinwager's book, "U-Boat, England's Doom"—I have already referred to. But they are not all quite so bad, as the sailor is generally less absurd than the publicist.

In his book, "My Experiences as U-Boat Commander against England," Lieutenant von Forstner recounts his adventures in the North Atlantic, the Channel, and the Irish Sea; while in his publication entitled "300,000 Tons Sunk," Lieutenant Valentiner does the same for his war against Allied commerce in the Mediterranean and Black Sea. Valentiner states that he passed through the Straits of Gibraltar submerged, but, for obvious military reasons, he gives no information as to how he passed through our patrol lines into the Dardanelles. Both books are characterized by lurid illustrations of violent explosions and sinking ships, and Valentiner makes great capital of the fact that he extracted from one of his victims the confidential Admiralty instructions by which merchant captains were ordered to protect themselves by escape or by engaging the enemy submarine if on the surface. The idea that vessels other than warships should attempt to protect themselves from enemy attack by flight or by force seems to have been specially repugnant to the average German submarine commander, and is adduced as a classic example of England's disregard for international law. That some of the German public, however,

had their doubts on the legality of the submarine war on unprotected commerce is seen in the fact that no less a person than Rear-Admiral Hollweg found it necessary to write a book in which he sought to prove that the submarine war was conducted on perfectly legal grounds.<sup>1</sup> These three books on submarine warfare were published by the firm of Ullstein, in Berlin, at the price of one mark each and sold by the hundred thousand. In these days of expensive books we might profit in at least one respect from the German example—in the matter of price.

One of the propaganda books dealing with submarine warfare has been put within the reach of English readers in an excellent translation by Captain Barry Domville, and I should like to be allowed to quote a few extracts. The book I refer to is Von Spiegel's account of the exploits of "U.202,"<sup>2</sup> and my main reason for quoting it is that it helps to support my main thesis of the preponderance of the psychological over the historical interest in most propaganda publications.

Three short extracts will serve to indicate what I mean, and they will not require any comment:—

"We had already sunk thirteen drifters, two sailing drifters, and the steam drifter with the crews on board were all that remained of the whole flotilla. As it was an opportunity which seldom occurred, I had allowed the stokers and engine room artificers to come on deck in turns so that they might see the sinking of a ship with their own eyes. I enjoyed listening to their comical remarks and watching the childish glee with which each fresh shot was welcomed. It pleased me to see the bright colour which fresh air and excitement produced in their pale faces."

The description of "U.202's" progress through the English minefields is a literary masterpiece, and in his attention to minute detail Von Spiegel is not unworthy of comparison with our Daniel Defoe. It commences with a tribute to the steersman who negotiated his tortuous progress through a Hampton Court maze of contact mines:—

"Boatswain's mate Lomann owed his first-rate steering to the constant practice he had had during the whole of his naval career. He had been a special 'war helmsman' ever since he became a blue-jacket, and whenever he committed a crime—and in times gone by that was no infrequent occurrence—it was always pleaded in extenuation of his offence, 'but he is such a good helmsman.' Lomann, who, when he wished, could touch any floating object with the bow of his boat, stood behind the wheel on top of the conning tower with his legs apart and grinning from ear to ear.

"Now we were thrusting right into the minefield. Lomann puckered up his small grey eyes to such an extent that they were hardly visible, spat first into his right hand and then contemptuously

<sup>1</sup> Konteradmiral Carl Hollweg: "Unser Recht auf den U-Bootskrieg."

<sup>2</sup> Freiherr von Spiegel: "Kriegstagebuch 'U.202.'"

with a high trajectory towards the first mine which we had just passed on our port side.

"Next he pulled up his leather trousers, bit his nose warmer—a clay pipe which was broken off close to the bowl—spat once more into his right hand and then began to make artistic turns and twists through the lanes which were dangerously narrow. He was so calm and certain the whole time, as if he had done nothing else all his life except steer U-boats through minefields, that I let him go on his own way entirely. After ten minutes we left the minefield behind us, and we estimated that we had passed 800 mines.

"We then proceeded at high speed towards the second minefield."

But this effort of imagination is surpassed in his chapter on how Britain abuses the Red Cross. He had sighted what was apparently a hospital ship, when he saw something which took his breath away: "I was just about to turn away, as an attack upon a ship rendered sacred by the Red Cross was naturally unthinkable, when my eye was horrified by something which I could scarcely believe. My sight had not deceived me, and I had another look which confirmed the greatest scandal that the light of the world has ever seen. The ship, with the sacred flag of purity and human mercy, was laden with guns right fore and aft, and an army of soldiers and horses was packed between the guns and their mountings. Under the protection of the colours and flags the transport-hospital ship was proceeding towards the scene of war in the full light of day without any escort. . . . We went after her at full speed for a long time until the distance between us became greater, and with empty batteries we had to give up the hopeless chase."

When such books as Spiegel's "U.202" were widely read and believed in Germany, can it be wondered at that a large section of the German reading public was completely hoaxed on many of the most vital issues of the war? May it not also be conjectured that our own propaganda work in Germany was so successful because it made an appeal to people who were overdosed by quack nostrums and who in eventual disillusionment could appreciate a corrective prescription?

As regards our fourth and last sub-division of German naval propaganda, there are only two books which I need particularize—these are "The Naval Battle at Skagerrack,"<sup>1</sup> by Otfried von Hanstein, and the anonymous "Skagerrack, the Day of Glory for the German Fleet."<sup>2</sup> There is little to distinguish between the two volumes except that Hanstein's book has more illustrations, and, as well as a short history of the German Fleet, contains some rather elementary remarks on naval tactics. This volume, by its reprints, *in extenso*, of the English and German reports has a somewhat more official air than its anonymous contemporary. Probably no contrast could be more significant, for a study of national character, than that

<sup>1</sup> "Die Seeschlacht am Skagerrak."

<sup>2</sup> "Skagerrak—Der Ruhmestag der deutschen Flotte."

between these two books on the one hand, and on the other our two best-known publications on the same subject—I refer to Mr. Pollen's "The Navy in Battle" and Lord Jellicoe's "The Grand Fleet." The English books, it is true, are not confined to the Battle of Jutland, but that event is their most dominant interest. It is a striking fact that the word propagandist would be the least suitable term to use of either of these English publications, and it is of interest for the student of national character that of the two books which the English reader would normally consult for information about this battle, one is a sharp criticism of what the author considers to have been Admiralty policy and the other is an unpretentious and somewhat ingenuous diary of events by a great seaman who is content to leave to others the adjudication of praise and blame. We are always rather diffident and critical of ourselves. It is difficult to conceive of such books being written, far less published, in Germany.

The somewhat unfortunate bulletins which, in this country, first announced that a great naval action had taken place, gave to the Germans just the chance they wanted for booming the exploits of the juvenile German Fleet. Our silence and the bad impression created by the first English reports, misled neutrals, and in matters of propaganda, we never regained from Germany what we had lost at the start. It did not matter that Germany had failed to break or even weaken the blockade, and that her capital ships were condemned to inactivity for the rest of the war. What mattered, in the hands of German naval propagandists, was that we had lost more heavily than our enemy, that the myth of English naval invincibility was once more exposed, and that German naval construction policy had been amply vindicated. These things were proclaimed from the house-tops, and many neutrals echoed the cry.

A quotation from the anonymous "Skagerrak" may be taken as typical of German propaganda writings on the subject of Jutland:—

"It would be foolish to maintain that by the Battle of Skagerrak England was decisively beaten. The German Navy knew that it had to deal with a brave and determined foe whose spirit and initiative could not but be admired. But to one of the combatants that day brought what for twenty-two months had vainly been hoped for—the demonstration of German worth and valour. For then one might have proof that all the proud hopes of the Supreme War Lord and of the German people in their Navy had been amply fulfilled, and that in material and men Germany had nothing to fear from comparison with any other Power.

"The nimbus of English naval invincibility was effectively dispelled by the battle, and with it disappeared the glories of Trafalgar. For what do the figures indicate? At Trafalgar there were some fifty ships in all opposed to each other: at Skagerrak there were as many capital ships without counting the other ships of the line, the armoured cruisers, the light cruisers, and torpedo boats. The total tonnage of the English ships engaged in the fight was about 1,300,000, that of the German ships about 675,000, or just half. Moreover, the English guns were considerably larger, the comparison between the average

weight of one of their broadsides being to the average of ours roughly as four to one. So therefore, on this occasion, German munitions, German material, guns and torpedoes, gained the victory over an enemy superior in weight and numbers. In this German naval construction played an important part, because the German armoured ships were considerably superior to the English in the protection afforded to boiler and engine room. No better justification of our recent construction policy could have been vouchsafed. It was the spirit of Von Tirpitz which asserted itself in this fight. But what could such good material do without the spirit of the ships' companies which inspired it? To this are we indebted more than to anything else for the victory."

There then follows a comparison between the English and German losses. The author admits the loss of the "Pommern," "Lützow," "Wiesbaden," "Rostock," "Elbing," "Frauenlob," and five torpedo-boat destroyers—total, 60,300 tons, while the English tonnage sunk amounted to 121,150 tons. From English prisoners and other sources it was learned that the following ships had also been sunk: the "Warspite," "Euryalus," and "Birmingham," while the "Marlborough" and "Princess Royal" had to be abandoned. This mistake about the "Euryalus" is very persistent among German writers on the subject of this battle. It will be noticed, however, that there are two assumptions in the statements above quoted—first, that the importance of a naval battle can be estimated by the relative amount of tonnage of the ships engaged, and secondly, that the side which loses the less amount of tonnage is the victor. It would be superfluous to make any comment on either of these assumptions.

But perhaps sufficient has now been said of German naval propaganda to enable us to gauge some of its characteristics. It should not be judged harshly, for it contains some good books and some very bad ones—if, indeed, one can use the word book of these little paper-bound volumes with their startling frontispieces and their crude illustrations. After all, every country has the war propaganda which it deserves, and none of the late belligerents need feel bound to live down its past in this respect, for such books are among the most ephemeral of all printed matter, and they are already half-forgotten. To read them now is like resurrecting old theatre programmes—the occasions and the actors themselves are alike becoming hazy, and we can regard them only with mingled toleration and impatience. Or rather, propaganda books are like advertisements on great hoardings amid waste places, but when such places become cultivated or built upon, and when the hoardings are removed, we forget the advertisements and would resent their recall. Moreover, as with advertisements, a propaganda campaign always conceals the veiled insinuation that a man does not know himself what is good for him, and seeks to influence him in a crude way. The method may vary from the subtlest of suggestions to the most blatant of falsehoods, and in each case reiteration is a necessary adjunct in securing the required hypnotic effect.

But it would be unfair to condemn all war propaganda as a kind of international lying competition. Conducted with sincerity and intelligence it has in the past, and will in the future, play a very important part in forming public opinion; but those who seek to direct such literary and artistic campaigns during great national crises assume an even graver responsibility than the leader in the field, for the latter can only sacrifice men's bodies, but the former may corrupt men's minds. It is something to be grateful for that in our own war propaganda we never plumbed the abysmal depths of the Hymn of Hate, and I venture to hope that these short selections from the German naval propaganda will not have been altogether unprofitable if they have helped to show that national character is still one of the chief factors determining the issues of international war.

#### DISCUSSION.

DR. MILLER MAGUIRE: There evidently is not much propaganda by way of oratory following on the admirable lecture to which we have just listened, and I feel that it would be unfair on the part of the audience not to show some appreciation of the brains and skill which the lecturer has devoted to what at first sight might appear to be a somewhat uninteresting topic. Certainly what he has told us has been not altogether new, because the fact that the strategy and tactics of the Germans were to some extent based on the suggestions of "the father of lies" has been the current topic amongst us since the year 1914; but I scarcely thought that the naval officers of the German Fleet, although new to their business of navigation as compared with our fleet, and new to their naval tactics as compared with our naval tactics, could have attained to such a magnificent skill in lying in such a short period as the lecturer has demonstrated. I should like very much to have followed some other speaker in criticizing the lecture. All I can do now is to express the thanks and appreciation of one who has in the past studied history, and who will probably have to study history again for the rest of his existence, for the admirable lecture to which we have listened. Lord Bacon says that in wars and in other matters rumours and themes and false reports have an enormous influence over the minds of men. You will find that in Bacon's Essays on Themes, Reports, and Rumours. Every now and again people at home are unquestionably worked up to take an enormous interest in the proceedings of their soldiers and fighting men abroad, and object very much indeed to anything tending to depreciate their efforts. That that was the case with the Germans I never had any doubt, because I was dealing intimately with German officers before the war, and I could see the intense interest they felt in the preparation for what they hoped would be the destruction of our battleships, of our commerce, and of our general system of inter-communication. In all this, according to the lecturer, they were completely deceived, and their deception has turned out to be all the greater by contrast with the very little deception practised by our own people. In fact, I think our naval officers said little or nothing to magnify their services during the war, and further, our people were given to depreciating the relative condition of the two services. I entirely agree not only with the first but also with the latter part of the lecture. The lecturer said that propaganda is probably as great a strategic and tactical instrument during the course of a campaign as the sword or the gun; in fact, in that connection one might quote the well-known words: "The orator's voice has more power o'er man than the murderous cannon's roar."

I beg to move a hearty vote of thanks to the lecturer for the admirable manner in which he has set forth the propaganda that was adopted by the Germans in regard to their Navy, and the skilful manner in which, whether with regard to battleships or blockades or submarine warfare, he has exposed the evil manoeuvres of the enemy and, by contrast, magnified the admirable conduct of our own sailors.

THE CHAIRMAN: Before putting the vote of thanks to you I should like to add my personal appreciation of what Mr. Ogg has told us to-day. In a very short time he has given us a clear impression of how ingenious the propaganda work in Germany was. It began by what we call an honest, straightforward account of operations in which the Germans had undoubtedly been successful. It has been my duty to go through most of the early cruiser books, and one finds that, although in detail they are very often wrong because they had extraordinarily little knowledge of what we were doing—they often say what we were doing, and it is wrong—as a whole they are undoubtedly faithful presentations of what happened. I think Mr. Ogg would agree with me that as the war went on they got less and less faithful, and even the Germans, who are not easily taken in, who easily recognize utter lies, were gradually led from the truth into something less than the truth, from less than the truth to falsehood, and from falsehood to downright lies, and there was never a moment perhaps when the ordinary man was able to distinguish between the two. Undoubtedly it was very successful. We ought to remember, I think, that propaganda does not necessarily mean lying. Our propaganda, especially our naval propaganda, was a desperate attempt to tell the truth, and we were never successful in doing so. One does not know how that happened. Later on a number of distinguished writers, such as my friend Sir Henry Newbolt and others, were employed to tell the plain, unvarnished truth; and as that propaganda developed it was pretty well as successful as the opposite course which was pursued by the Germans. But it shows us that this whole question of propaganda is a very deep question of psychology, and unless it is carefully done, unless a finger is kept on the psychology of the nation and the others concerned, we shall never produce the results which may be produced from it. That is why I have great pleasure in putting to you the vote of thanks to our lecturer, who, I think, I may claim in a way, at all events on the naval side, really initiated the serious study of this very important question.

Ladies and Gentlemen, I will now ask you to accord a hearty vote of thanks to our lecturer, Mr. Ogg, for the admirable lecture he has delivered to us.

SIR ARTHUR LEETHAM, C.M.G.: Ladies and Gentlemen. On behalf of the Council I ask you to accord to our chairman a hearty vote of thanks, not only for presiding over this meeting, but also for the very valuable remarks he has made, which I am sure you will agree will greatly add to the interest of the lecture when it appears in the JOURNAL.

The resolution of thanks was carried by acclamation, and the meeting terminated.

## COMBINED OPERATIONS.

By MAJOR-GENERAL SIR GEORGE ASTON, K.C.B.

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On Wednesday, November 26th, 1919.

Admiral SIR F. C. D. STURDEE, Bart., K.C.B., K.C.M.G., C.V.O.,  
in the Chair.

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THE CHAIRMAN: Gentlemen. It is hardly necessary for me to introduce the lecturer, Sir George Aston, because he is so well known in the Services and has been dealing with the subject of amphibious warfare for many years, besides being a lecturer at the Staff College at Camberley and at Greenwich.

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### LECTURE.

MORE than twelve years have passed away since I was honoured by the Council of this Institution with an invitation to deliver an address on a subject similar to that which we propose to discuss together this afternoon. On that occasion I reminded those who were present of a book called "Conjunct Expeditions," published in 1759, which was written on the text that:—

"The Fleet and Army, acting in concert, seem to be the natural bulwark of these Kingdoms."

From that book I reintroduced to the public the expression, "amphibious war," which is now constantly in use, I think to our advantage, because of the value of catchwords in influencing thought and policy. I ventured at the conclusion of my lecture to urge officers of our sea and land forces not to think only of their own services, in watertight compartments, but to "think amphibiously." I hope that the advice so given may at times have had some little influence both upon the statesmen responsible for the conduct of the late war, and upon the great seamen and soldiers who have been charged with the execution of their decisions.

I have been invited to deal to-day with "combined operations" from the historical point of view, but before doing so I ask you to allow me to recall some of the broad conclusions come to in this hall on the occasion to which I have referred. It was in July, 1907; my object was to draw from history principles which would be of value to us all if ever we were engaged in a great war. I ventured first to issue a serious warning against the expression, "limited war," then in common use. It gave the idea that a war could be embarked upon lightly, with the assurance that liabilities could be limited, as they can be in commerce, a subject to which our national studies

were then devoted to the complete exclusion of the comprehensive study of war. The expression originated in a mis-quotation from Clausewitz, used by an influential writer and publicist. Clausewitz never wrote of "limited wars"; he wrote about "wars with a limited object," a very different matter. Although an object may be limited, its attainment may require all the moral and material resources of the nation. It is difficult to exaggerate the amount of harm that can be done by the misuse or misquotation of such a phrase. It was partly due to such superficial study that we avowedly entered upon the late war with the idea that we should be able to conquer while conducting "business as usual," treating the war as a side-issue.

Before discussing amphibious strategy twelve years ago we made the following assumptions, based upon historical experience:—

(1) That, for one nation to conquer another and force a war to a conclusion, it was advisable to locate and aim at the vitals.

(2) That the simplest, quickest, and cheapest way of doing this was by rapid invasion of home territory, defeat of the field army, and seizure of all resources for organizing another one.

In making this assumption we referred to the example of the Franco-Prussian War of 1870-1, in which the issue was decided rapidly, and the conqueror made a net profit of £174,000,000, causing a net loss to the losers of £603,000,000, according to expert financial opinion (the late Sir Robert Giffen). We did not record the warning of history that failure in such strategy would bring about complete collapse if the culminating point were passed, and the invaders could no longer maintain an active offensive. There is no danger of that lesson being again forgotten.

(3) That industrial countries were becoming increasingly dependent upon free communications with other countries and with oversea markets. Interference with such communications might in time induce a Continental nation to conclude a war, but we had little evidence to go upon. (We now have better evidence.)

That, in dealing with islands like the United Kingdom, serious interference with sea communication might be as speedily effective as successful invasion.

(4) That interference with the external communications of a hostile country had the effect of isolating her oversea possessions.

I do not think that we are likely ever to forget that truism with recent experience at our disposal.

(5) That financial endurance was an important factor in success, and must be looked upon as vital.

We have since learned much about that subject, which is beyond the scope of our subject to-day.

(6) That wars which neither side could conclude by the invasion method were likely to last for a long time, and the endurance of popular sentiment and staying power were essential to success.

I need not now emphasize the importance of that warning.

I have purposely digressed from my immediate subject, "Combined Operations," because I believe in always getting a grasp of the whole pattern before dealing with a small portion of it. Only

by such means is it possible to maintain a general sense of proportion, which is so necessary to the successful conduct of war. The next point mentioned in the lecture, and emphasized by Lord Roberts and Sir Henry Rawlinson on behalf of the Army, by Sir A. K. Wilson on behalf of the Navy, and by Sir Julian Corbett and Mr. John Fortescue, speaking as historians, was the need for devising an executive body for the control of sea and land operations. The warning issued by these high authorities was disregarded. Seven years later we entered upon the great war without having devised an efficient system. Executive power for conducting war was entrusted nominally to a Sanhedrim of twenty-one civilian Statesmen and one soldier. It is generally believed that the continuance of that arrangement would have drifted us to defeat.

The War Cabinet system, subsequently devised, is probably the best that can be applied in democratic countries not containing any single leading Statesman who, like the elder Pitt, has made the conduct and nature of war the study of a life-time.

The control and inception of sea and land operations leads us naturally to our immediate subject, Combined Operations, which, in order to narrow the issue, I will define as the combined action of sea and land forces against a common objective. I use the word "objective" advisedly in its narrow strategic sense, which means the actual thing, be it fleet, army, or town, against which sea and land forces are directed by the controlling authority. Historical experience warns us against geographical objectives such as towns, and the late war has strengthened that experience, so I will narrow the issue further, and deal with combined operations directed against fleets, armies, or portions of such forces. With your permission I will begin in the year 1866, when ships were propelled by steam power, and trace examples of combined action by sea and land forces to destroy an enemy's fleet or army. With the aid of lantern slides I propose to give a brief sketch, from that aspect, of the Austro-Italian War of 1866, the Chile Revolutionary War of 1891, the Chino-Japanese War of 1894-5, the Spanish-American War of 1898, and the Russo-Japanese War of 1904-5. We will deduce a few principles as we go along, and see how far those principles were applied or ignored during the great war, and with what results. The time at our disposal only allows us to take a very superficial glance at our subject. For further details I should like to be able to refer you to my book, "Letters on Amphibious Wars," which I was inspired to write by members of the audience whom I addressed here twelve years ago; but the book is now out of print.

We will pass at once to the Austro-Italian War of 1866.

#### THE CAMPAIGN OF LISSA, 1866.

War between Austria and Italy was declared on June 20th. On the 24th the Austrians won the battle of Custoza, a land campaign coming outside our subject. On June 25th the Italian Fleet, under Persano, arrived at Ancona from Taranto. (The lecturer illustrated by lantern slides the movements of the sea and land forces in this

were then devoted to the complete exclusion of the comprehensive study of war. The expression originated in a mis-quotation from Clausewitz, used by an influential writer and publicist. Clausewitz never wrote of "limited wars"; he wrote about "wars with a limited object," a very different matter. Although an object may be limited, its attainment may require all the moral and material resources of the nation. It is difficult to exaggerate the amount of harm that can be done by the misuse or misquotation of such a phrase. It was partly due to such superficial study that we avowedly entered upon the late war with the idea that we should be able to conquer while conducting "business as usual," treating the war as a side-issue.

Before discussing amphibious strategy twelve years ago we made the following assumptions, based upon historical experience:—

(1) That, for one nation to conquer another and force a war to a conclusion, it was advisable to locate and aim at the vitals.

(2) That the simplest, quickest, and cheapest way of doing this was by rapid invasion of home territory, defeat of the field army, and seizure of all resources for organizing another one.

In making this assumption we referred to the example of the Franco-Prussian War of 1870-1, in which the issue was decided rapidly, and the conqueror made a net profit of £174,000,000, causing a net loss to the losers of £603,000,000, according to expert financial opinion (the late Sir Robert Giffen). We did not record the warning of history that failure in such strategy would bring about complete collapse if the culminating point were passed, and the invaders could no longer maintain an active offensive. There is no danger of that lesson being again forgotten.

(3) That industrial countries were becoming increasingly dependent upon free communications with other countries and with overseas markets. Interference with such communications might in time induce a Continental nation to conclude a war, but we had little evidence to go upon. (We now have better evidence.)

That, in dealing with islands like the United Kingdom, serious interference with sea communication might be as speedily effective as successful invasion.

(4) That interference with the external communications of a hostile country had the effect of isolating her overseas possessions.

I do not think that we are likely ever to forget that truism with recent experience at our disposal.

(5) That financial endurance was an important factor in success, and must be looked upon as vital.

We have since learned much about that subject, which is beyond the scope of our subject to-day.

(6) That wars which neither side could conclude by the invasion method were likely to last for a long time, and the endurance of popular sentiment and staying power were essential to success.

I need not now emphasize the importance of that warning.

I have purposely digressed from my immediate subject, "Combined Operations," because I believe in always getting a grasp of the whole pattern before dealing with a small portion of it. Only

by such means is it possible to maintain a general sense of proportion, which is so necessary to the successful conduct of war. The next point mentioned in the lecture, and emphasized by Lord Roberts and Sir Henry Rawlinson on behalf of the Army, by Sir A. K. Wilson on behalf of the Navy, and by Sir Julian Corbett and Mr. John Fortescue, speaking as historians, was the need for devising an executive body for the control of sea and land operations. The warning issued by these high authorities was disregarded. Seven years later we entered upon the great war without having devised an efficient system. Executive power for conducting war was entrusted nominally to a Sanhedrim of twenty-one civilian Statesmen and one soldier. It is generally believed that the continuance of that arrangement would have drifted us to defeat.

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campaign and in others subsequently referred to.) On the 27th the Austrian Fleet under Tegetthoff, coming from Pola, appeared off Ancona, but Persano remained in harbour. Tegetthoff returned to Pola. On July 8th Persano put to sea, reconnoitred Pola on the 9th, and returned to Ancona on the 13th. Tegetthoff remained in harbour. On the 16th Persano again put to sea, accompanied by transports containing troops, without taking any steps to watch Tegetthoff's fleet at Pola. Persano conducted a combined operation against the fortified island of Lissa on July 18th and 19th. During the morning of the 20th Persano was surprised by Tegetthoff's fleet, which, although far inferior in numbers, armour protection, and in gun-power, won a decisive victory.

*Lessons Learned.*—The object of the stronger sea-power is to induce the weaker fleet to put to sea and fight an action. Persano's combined operation against Lissa, looked at from that point of view, may be counted as a strategic success. His fatal error was to allow himself to be caught unawares and so defeated by the weaker Austrian fleet. Besides having to dispose his scattered forces hastily for action, he ran short of ammunition during the battle because so much had been expended against the Lissa forts.

Passing to the Chile Revolutionary War of 1891:—

#### CHILE REVOLUTIONARY WAR, 1891.

We here find a most valuable example of the skilful application of the mobility of troops by sea, as compared with their movements on land in a difficult country. The conditions in Chile for applying the principles of amphibious strategy are ideal, and very exceptional. Chile is a narrow belt of country with a very long sea-coast. Mountain ranges run right down to the sea, and render lateral communication by land very difficult. (Reference to map.) The war arose out of a conflict between the Congression and President Balmaceda. The fleet took the part of the Congressionists, the army took the part of the President. The net result of the war, which began on January 6th, 1891, was that the Congressionists used their sea-power to blockade the northern ports and capture merchant ships. After obtaining a footing on land they raised and trained an army of about 9,500, distributed as follows:—Iquique, 3,000 odd; Caldera, 3,700 odd; Huasco, 2,500 odd. Captured merchant ships were used as transports, and the forces from Iquique, Caldera, and Huasco effected a junction at sea on August 19th, landed at Quintero unopposed on the 20th, defeated the Balmacedist army, captured Valparaiso on the 28th, and occupied Santiago on the 31st. Valparaiso was fortified on the sea side, and Balmaceda's army numbered 32,500, of which number about 14,000 were stationed at Valparaiso and Santiago, and about 8,400 at other places to the southward with railway communications to those towns; total, 22,400. Most of the remainder of the Balmacedist troops were at Coquimbo.

*Lessons Learned.*—The war is full of lessons for the student of amphibious strategy. The brilliant success of the Congressionists

was not obtained by hasty improvization, but by forethought, good staff work, and careful and laborious preparation, inspired by a German, Colonel Emil Korner, who, when last I heard of him, was a Lieut.-General in the Chilian Army.

Secrecy about destination is the first and most important principle for success in a combined operation. In the Chilian war secrecy was ensured by not disclosing the plan until the various forces met at a rendezvous at sea. The various commanders were then assembled on board one of the ships, the details were fully disclosed, the full orders were issued, and discussed until every commander knew exactly what was to be done. Secrecy was further ensured by approaching the coast by night. Directly the place of disembarkation was realized by the defending army, the importance of secrecy gave way to rapidity. It was urgently necessary to pour troops on shore more rapidly than the defending army could assemble.

The next lesson learned was a naval one—the navigational difficulty of hitting off exactly the right spot on the coast in the dark. Wind and tide took the Congressionalists ten miles out of their course. Instead of beginning at 3 a.m., the disembarkation was delayed until 7.30, when it was broad daylight. Rapidity in emptying the transports was ensured by large flat rafts, lashed to the sides of the transports at sea, and by plenty of ladders let down from the deck.

Land transport is always the difficulty limiting the movement of armies landed in a hostile country. The intention had been to seize local carts and wagons, but the delay enabled these to escape.

Co-operation with the army by gunfire from ships was, as usual, very ineffective, until the enemy took up a position at right angles to the coast line, and the ship's gunners could see and enfilade their targets without fear of hitting their own friends.

When near Valparaiso, the shore batteries compelled the ships to keep out of range.

Let us now take a brief glance at the Spanish-American War of 1898:—

#### SPANISH-AMERICAN WAR, 1898.

With the purely naval operations we are not concerned, nor with the general strategy of the war. It will be enough to mention that two Spanish squadrons were engaged. Montojo's, in the east, was destroyed at anchor in Manila Bay by Admiral Dewey on May 1st, a state of war having been established on April 28th by a declaration by the United States of a blockade of the coast of Cuba. Cervera's squadron was ordered to cross the Atlantic by the Spanish Government against the wishes of its commander and the advice of the sea officers. Some of the Spanish sea-going war vessels were kept for the protection of the coast of Spain, fearing a raid by an American "flying" squadron under Schley, who was kept for some days guarding the east coast of America in compliance with popular pressure, the coastal population being in a state of panic. Cervera left St. Vincent on April 29th, arrived off Martinique on May 11th, Curaçoa on May 14th, and found refuge in the defended harbour of Santiago, in Cuba,

on May 19th. Admiral Sampson, commanding the main American squadron, had endeavoured, without the assistance of Schley, to locate and bring to action Cervera's squadron. Sampson had cruised to the eastward as far as Porto Rico (May 12th), and had returned to Key West on May 19th, the day that Cervera reached Santiago. Schley on that date (May 19th) was also off Key West. This brief introduction leads us to the combined operation undertaken for the destruction of Cervera's squadron.

Schley, passing west-about round Cuba, was off Santiago on May 27th, but did not ascertain that Cervera was in the harbour until May 29th. Sampson, passing east-about round Cuba, joined Schley on June 1st. Cervera remained in harbour. It had taken the American sea forces a whole month to locate his squadron. The forts at the mouth of Santiago harbour were very weak, some of the old guns were described as being "simply and inexpensively mounted on heaps of gravel," but there were four modern guns of 6-inch calibre. Presumably the fear of mines kept Sampson's squadron at bay, unable to get at Cervera. On June 3rd the "Merrimac," a merchant vessel, was sunk by Sampson's orders in the entrance of the channel, but she did not block the fairway completely. There were about 200,000 Spanish troops in Cuba, but a large proportion of the population was in rebellion against Spain. Directly Cervera was located (May 29th) in Santiago harbour the need for combined operations had been foreseen, and General Shafter was given only four days' notice to make all arrangements for embarking 25,000 men rapidly at Tampa, in Florida. We need not go into details about that. After secrecy, the most important factor in the success of a combined operation is careful preparation and good staff work, done beforehand. As we saw in the Chile war, rapidity is all-important when once the expedition has been launched. The time must be measured from the moment when the embarkation begins to the time when the military force is on land, ready for action, with stores, equipment, and transport complete for fighting a battle. Hurried embarkation leads inevitably to interminable delays in disembarkation, which enables the defenders to make their arrangements and concentrations. As a result of haste and want of preparation, the situation at Tampa was one of wild confusion, a crowd of 10,000 of all ranks, from Generals downwards, swaying to and fro on the wharves. Stores and troops were bundled anyhow into the transports. We cannot, in so brief a summary, go into the details, and we are the last people to adopt a critical attitude. Even in the recent war we ignored historical experience ourselves and repeated nearly every mistake that could easily have been avoided, in the conduct of combined operations. It will suffice to repeat the vitally important principle that a hurried and unprepared embarkation leads inevitably to delay at the other end of the voyage. Whatever the troops require first must be put into the transports last.

Then about secrecy, of which we saw the importance in Chile in 1891. Early in May a very serious example occurred of disclosure by the Press of the destination of a raiding force, called the "Gussie Expedition," which was designed to land stores and arms to the

westward of Havana, in Cuba, for the use of the insurgents against the Spanish garrison. The Spaniards learned the destination of the expedition from the American Press, and for that reason the raiders failed in their object. The Government and General Shafter did their best to bring about a different state of affairs, but with little success. Of the Spanish garrison of about 200,000 troops in Cuba about 10,000 were at Santiago, and 13,000 in the neighbouring districts. It is true that the movement of Spanish troops by land was difficult, because of the attitude of the insurgents, but nevertheless secrecy was, as usual, all-important. Owing to transport and other difficulties the strength of Shafter's force had had to be reduced to 16,000.

During the voyage Shafter's convoy of transports was very difficult to handle. The importance of special signalling arrangements and practice in merchant ships in keeping station had been overlooked. On June 22nd the disembarkation, which was not opposed, was commenced about sixteen miles to the eastward of the harbour of Santiago, at a place called Daiquiri. Much delay resulted from the want of steamboats. The first troops to land pushed on about seven miles and seized the harbour of Siboney, about nine miles from Santiago. Subsequent disembarkation took place at Siboney. As the wheeled transport was not landed, indefinite delay would have resulted if those seven miles of bad road had not been saved. Most of the work of land transport was done by pack-mule trains, and the Americans are past masters in handling them. Some difficulty was found in handling the mules. The idea was to bundle them overboard to swim ashore, but so many elected to swim out to sea that the system had to be changed, and they were towed by boats. Six days' delay occurred for want of transport. The Spanish garrison of Santiago had a good chance of attacking, but remained passive, and took no advantage of their opportunities. Shafter's advance was opposed at La Guesinas, close to Siboney, on June 24th, and on the line El Caney—San Juan, close to Santiago, on July 1st. Shafter's army had endured the most appalling discomforts and hardships, and sickness was rampant. It had suffered very heavy casualties, and after capturing the El Caney position was at the end of its tether, under the fire of Cervera's ships, and incapable for the time of further advance. A Spanish relieving force from Manzanillo was approaching Santiago. On July 2nd Sampson's ships bombarded the coast forts. On the 3rd Shafter tried the effect of "bluff" and sent a demand for surrender, but, before his party under a flag of truce could reach Santiago, Cervera's ships put to sea, and were sunk by their own crews after a short action with Sampson's blockading squadron. The Spanish military position on land did not, as we have seen, necessitate the sortie by Cervera's ships. But here again the Spanish Government had intervened, and to Shafter's army must be allotted the credit. On June 24th the Spanish Minister of Marine had informed Cervera that the Government had placed him under the orders of the Captain-General at Havana. On July 2nd, at 5.10 a.m., the Captain-General definitely ordered Cervera to put to sea, with the result stated.

The destruction of Cervera's squadron decided the issue of the war. On July 17th the garrison of Santiago surrendered, as did 23,000 troops in the district. Cuba, with its total garrison of about 200,000 Spanish troops, was surrendered to the Americans, the position of the garrison being hopeless because the Americans had gained command of the local seas by their combined operation against Cervera's squadron. There are few more striking examples in history of the tremendous results obtainable by a combined operation launched against a well-chosen objective.

Before passing to other amphibious wars it is desirable to note that the American strategy was to concentrate all their efforts against Cervera's squadron, until the issue had been determined by the destruction of that squadron. It was not until afterwards that they occupied Porto Rico, on which island General Miles had 18,000 troops by August 18th. It is important, whenever an amphibious operation is considered, to ask whether it is intended (1) to have a direct influence upon the issue of the war? or (2) to influence the terms of peace? Strategists who rely upon historical experience for their principles never employ for the second object any forces which can be used to ensure the first, upon which all else depends. The first object, winning the war, can best be secured by defeating the enemy's forces, and it is a rash proceeding to divert any sea or land forces from that object until it has been attained. We shall find that Japan, in her wars with China and with Russia, followed the same strategy as America did in the war with Spain. It was not until the issue had been determined that Japan occupied the Pescadores Islands in 1895, or Saghalien in 1905, in order to influence the terms of peace.

I have not referred to the American landing in the Philippines on May 23rd to destroy the batteries and arsenal at Manila, or to the subsequent operations there, because they have had no influence upon the issue of the war. The Spanish Admiral, Camara, with his squadron was kept off the coast of Spain until too late to produce any effect. He was ultimately ordered to the East, but did not pass the Suez Canal until July 2nd. It may possibly be advanced that, had he started sooner, and had the defences of Manila been left intact, those defences might possibly have been of use to him; but this is mere surmise.

*Lessons Learned.*—On the American side, the importance of secrecy about combined operations, and the difficulty of ensuring secrecy unless some form of control or co-operation is established with the Press. The absolute necessity for preparation. The effect of popular panic upon sea strategy. The delay caused by a hasty embarkation without system or preparation. The care required in packing transports so that what the troops require first shall be on the top and easily accessible. The need for steamboats, or boats with some motive power, for the actual landing. The impossibility of movement on land without adequate transport. Above all, and transcending all other considerations in importance, the selection of the right objective for a combined operation. In spite of all difficulties and mistakes, the combined operation was successful. Because

Cervera's squadron, by far the most important factor in the war, had been selected as the objective, the Americans rapidly won the war.

On the Spanish side, the most conspicuous lessons were the danger of interference by civilian governments and by military commanders with purely naval matters, movements of war vessels. The Spanish Government sent Cervera's squadron across the Atlantic without waiting for reinforcements, and the Captain-General at Havana ordered Cervera to put to sea under conditions which must inevitably lead to the sinking of his ships.

We will now take Japan's wars against China in 1894-5, and against Russia in 1904-5.

#### CHINA-JAPAN WAR, 1894-5.

Japan's wars are of special interest to us. They were wars of a nation dwelling in islands against Continental Powers. I have left them to the last because, owing to their great similarity, it is better to take them together. Their most conspicuous feature is the way in which operations by fleet and army were controlled by a central authority so as to time the blows struck by sea and land forces respectively, and obtain the greatest effect out of the work of both. Either the enemy's army or the enemy's fleet was always the objective, and the Japanese fleet and army helped each other, first against one, and then against the other. The whole war must be treated as a combined operation, looked at from the widest point of view. But in so brief a summary of the war against China we can only deal very shortly with the general movements, devoting the most attention to the local combined operation in which the war culminated, the destruction of the Chinese fleet in Wei-Hai-Wei Harbour.

The war arose over the question of Chinese sovereignty over Korea. It began by an act of war by Togo, afterwards well known to fame, who sunk a British merchant ship, the "Kowshing," carrying Chinese troops to Korea, on July 25th, 1894, after defeating some Chinese third-class cruisers sent out to escort her to Asan. We will trace the subsequent operations very briefly. In August the Chinese fleet remained at Wei-Hai-Wei, excepting for a cruise to Taku and back again, unmolested by the Japanese, who employed their war vessels in covering their transports. On September 12th the Chinese fleet again put to sea, to cover troop movements to Takushan, and arrived at Ta-lien-wan on September 14th. We thus find that both fleets, instead of seeking for each other, adopted at first a defensive attitude, covering the sea transport of troops. The Japanese, their own troop movements completed, put to sea to prevent further movements by sea of Chinese troops. On September 16th the Chinese fleet left Ta-lien-wan escorting a convoy of transports, from which troops were landed safely on the same day near the mouth of the Yalu River. On September 17th the Japanese fleet, under Admiral Ito, met and defeated the Chinese fleet, under Admiral Ting, in the Battle of the Yalu. After the battle the Japanese anchored off Ping Yang on September 18th; the Chinese sought refuge in the defended

harbour of Port Arthur on the same date. A month later, on October 16th, a Japanese army, under Marshal Oyama, began to embark, with a siege train, and arrived off the mouth of the Hua-yuan River, about twenty miles north of Pitzuwo, on November 5th to attack Port Arthur and the Chinese fleet. The army was in thirty-three transports, and the Japanese fleet escorted them and covered the landing, thus allowing the Chinese fleet an opportunity, of which it took advantage on November 7th, of escaping from Port Arthur to Wei-Hai-Wei. Oyama's army began to disembark on an open beach on November 6th, seized the good harbour of Ta-lien-wan on November 17th, began the attack on Port Arthur on November 21st, and captured the place on the same day.

We will not follow the land operations beyond noting that, having secured sea command, the Japanese landed troops in Korea at Gensan, Fusan, Chemulpo, and Chinampo, combined their armies, crossed the Yalu, and moved on Hai-cheng by December. The army which captured Port Arthur moved northwards and was in touch with the army from Korea by January 30th. The Japanese Navy, besides keeping the sea communication of the armies secure, helped in every way during the landing of troops at the different places on the coast, and subsequently in putting stores for them ashore in convenient places.

We will pass at once to the most important combined operation in the war—the capture and destruction by the Japanese sea and land forces of the remnants of the Chinese fleet in the harbour of Wei-Hai-Wei. As long as that fleet existed the sea movements of the Japanese transports and store ships for the armies were insecure. The Chinese fleet was protected by strong forts and boom defences. The strength of the Chinese garrison was between 9,000 and 12,000, and the Shan-Tung province was full of Chinese troops, such as they were. The month was January, and only those who are familiar with these seas can realize the bitter cold and storms that had to be encountered. The enterprise succeeded because of careful preparation and great heroism and perseverance in the face of great difficulties and severe weather. Marshal Oyama, who had captured Port Arthur, was selected for the command. The bulk of his force left Japan on January 10th, and went first to Ta-lien-wan, thus mystifying and misleading the Chinese as to the destination. Between the 19th and 22nd the convoys left Ta-lien-wan. On January 18th and 19th a false landing was made at Teng-chou-Fu, about seventy miles west of Wei-Hai-Wei, thus drawing the Chinese forces in the Shan Tung province away from the objective. On January 20th fleet and transports arrived unexpectedly at Yung-Cheng Bay; the landing was unopposed, and completed by January 25th. Great care had been taken to provide plenty of steamboats for towing, and plenty of large sampans with overhanging bows, specially strengthened to stand bad weather and the buffeting of ice. Six weeks' supplies were landed. The advance began on January 26th. The total strength of the army was 19,500 fighting men, 3,000 departmental troops, and 10,000 coolies for handling the stores and for transport. Total, 32,500.

Hard fighting began on January 30th, on which day the eastern group of forts on the mainland was captured; Wei-Hai-Wei and the remainder of the mainland forts fell on February 18th. The weather was too bad for the Japanese fleet to keep the sea. The ships were covered with ice, and blocks of ice five inches thick were frozen into the muzzles of the guns. On February 3rd the Japanese fleet and army captured forts on the mainland, bombarded the Chinese fleet and island forts. Japanese torpedo boats tried unsuccessfully to cut the boom. During the night of February 4th they found their way through a difficult channel close to the shore, attacked the Chinese ships, and injured a battleship. The attack was repeated at 4 a.m. on February 6th, two of the boats jumping the boom. Although anchored close to the shore, and surrounded by guard-boats, three Chinese ships were sunk by torpedoes. Bombardments by ships and mainland forts were kept up continually. The fort on Itao Island fell on February 7th. This enabled the Japanese to remove part of the boom on the 9th, a Chinese ship having been sunk, and a fort on Liu-Kung-Tao Island having been destroyed by bombardment on the previous day. On February 12th, twenty-three days after the combined expedition arrived, the remainder of the Chinese fleet and forts surrendered.

After successes by the Japanese Army at Liao-Yang on March 1st, Newchuang on March 4th, and near Ying-Kou on March 9th, the Chinese put up no further fight. The Japanese occupied the Pescadores Islands. On April 17th peace was signed.

*Lessons Learned.*—The value of secrecy about destination. The value of rapid and continuous action when once a combined operation has been launched, and the need for prolonged and careful preparation to ensure this result.

We can also note that the Japanese Army was composed of trained and well-equipped soldiers, inspired by patriotism. China was an anti-military country, and soldiers were looked upon with contempt.

War strategy in China was dealt with solely by civilians, in Japan by a council containing experienced seamen and soldiers, acting with the authority of the Emperor.

The commander of the Chinese fleet had spent most of his service in the cavalry, the Japanese commander was a sea officer.

We will conclude this short study of combined operations by a short summary of the operations by Japan against Russia ten years later, covering the same theatre of war.

#### RUSSO-JAPANESE WAR OF 1904-5.

The Russo-Japanese War of 1904-5 affords the best example in history for students of amphibious warfare; it was skilfully conducted in a theatre of war specially suited for its application. A glance at the map shows the great length of coast-line of the country in which the Russian forces were distributed. Land communications being undeveloped and inferior, a great advantage was presented to the side able to move troops securely by sea. In their war with China, the Japanese protected their convoys of troop transports by defensive

action, keeping their fleet in a covering position and deferring offensive operations against the hostile fleet until the troop movements had been completed. In the war with Russia the Japanese immediately put to sea with orders "to destroy the Russian fleet." Togo put to sea with this object in view on February 6th, 1904. The main Russian fleet in the East was based upon Port Arthur. A small force of cruisers was at Vladivostok, the "Varyag" (cruiser) and "Koryetz" (gunboat) at Chemulpo. At 4 p.m. on February 8th the "Koryetz" left for Port Arthur, met Japanese torpedo-boats, and the first act of war resulted. The Japanese began to land troops at Chemulpo the same night. On the 9th the Japanese called upon the "Varyag" and "Koryetz" to put to sea, where they met a Japanese squadron, were driven back, and sunk in harbour by their own crews.

The Russian fleet in the outer anchorage of Port Arthur was attacked by Japanese destroyers on the night of February 8th-9th, and retired into the inner harbour, three battleships and a first-class cruiser having been put out of action. From that date until the end of the year Togo, by bombardments and by every other means at his disposal, was unable, using naval resources, to "destroy the Russian fleet," but, by constant watching, he saved the transports conveying troops from its menace. The Russian Port Arthur fleet was ultimately captured by a combined operation on a large scale. Before we consider that operation, let us deal briefly with the way in which the Japanese used their amphibious power against the Russian armies in the East, in an ideal theatre of war for such operations.

Let us bear in mind that the length of coast-line shown on the map will mislead us unless we remember how much of it was ice-bound in the early days of the war. The Japanese military strategy followed almost exactly the lines of their strategy ten years beforehand against China, but on this occasion they were dealing with a more formidable and better equipped enemy, with better means of communication. A railway had been completed from Port Arthur to Harbin, where it joined the Russian line to Vladivostok. As in 1894, a Japanese army, landed at various places in Korea, effected a junction near Liao-Yang with another landed on the east side of the Liao-Tung peninsula. On this occasion a third army, to form a link, was landed near Taku-shan. A conspicuous example of the value of sea command to an army occurred during Kuroki's advance of the army through Korea. Kuroki's land transport broke down, and his advance would have been deferred indefinitely if he had not been supplied from stores landed for his use at various points on the west coast of Korea.

Another advantage was gained by the Japanese success in maintaining secrecy as to the destination of the troop convoys. Not knowing from whence the blow would come, the Russian troops were much dispersed, and failed to effect concentration in time to strike an effective blow against Kuroki before he could effect a junction with the other Japanese armies. But, fascinating as the subject is, we must not devote too much attention to the military strategy, or to the advantages in choice of bases for their armies conferred upon the Japanese by their sea command. Let us only note in passing.

their patient concentration of effort against hostile fleet or hostile army, their co-ordination of naval and military effort in great combined operations directed against one or other of these objectives, and their avoidance of all diversion of force against anything else until the issue of the war had been determined.

We must note in passing that Admiral Togo was obliged occasionally to divert some of his sea forces to deal with the Russian cruisers which made occasional sallies, beginning as early as February 10th, from Vladivostok, directing their operations chiefly against small merchant craft and fishing vessels, and only scoring success against three Japanese transports, near Gensan (April 23rd) and in the Korean Straits (June 15th), and against two storeships (July 20th).

The combined operations of the greatest interest are those undertaken for the destruction or capture of the Russian fleet in the defended harbour of Port Arthur. These operations began in May and lasted until December.

Admiral Togo tried every device at his disposal, bombardments, mines, and torpedo attacks, to destroy or put permanently out of action the Russian Port Arthur fleet. By the end of May he had only succeeded in sinking one Russian battleship ("Petrpaulovsk"), sunk by a mine during a sally; two Japanese battleships ("Hatsuse" and "Yashima") had been sunk by Russian mines. On May 5th Oku's Japanese army began to land on the east coast of the Liao-Tung Peninsula, near the spot where Oyama's army landed in 1894. The landing was unopposed. The last Russian train passed southward to Port Arthur on May 9th, and by May 16th the Japanese were across the peninsula on the Pu-lan-Tien line, cutting Port Arthur off from communication to the northward.

The situation of Oku's army in the middle of May presented a problem of the utmost interest in amphibious strategy. Should he turn northwards against the Russian field army, or southwards against the Russian Port Arthur fleet? The Russian army to the north was being strengthened every day by troops sent along the line from Russia, via Harbin. On the other hand, there was talk of the Russian Baltic Fleet being sent to the East, and unless the Port Arthur fleet was destroyed before its arrival the whole of the Japanese plan might have collapsed through the defeat of Togo at sea by the combined Russian fleets. He would have been obliged to lift the blockade of Port Arthur to deal with the Baltic Fleet before it reached Japan, and in his absence the Russian Port Arthur fleet could have made havoc with transports, storeships, and army bases on the coast. Under such conditions it would have been easy for the Russian army to deal with the Japanese armies, which would have lost all means of supply, equipment, and replenishment. It was a delicate time-problem of great interest to strategists; which danger would develop first? Danger from the Russian army or danger from the Russian fleet? And which force offered the most serious threat?

Oku's army was sent southwards, leaving a covering force about Pu-lan-tien. On May 24th the portion of the Russian field army cut off in the southern part of the peninsula was concentrated in a strongly-

entrenched position extending from sea to sea across the narrow neck of the Kuan-Tung Peninsula, near Nan-shan. Here we find an exceptional example of direct assistance being given by war vessels to armies in battle. The conditions of sea and land gunnery being entirely different—land targets being usually invisible at long ranges, and inter-communication between sea and land forces being seldom practised—the support of troops by gunfire from the sea is generally ineffective. Artillery support for attacking infantry is always a difficult problem, because, to be of any use, it must be kept up until the attackers are within a few yards of the defenders. Togo was unable to support the left of the Japanese army, on account of the Russian minefields, and the Japanese suffered some loss from the fire of five Russian ships on that flank. At the other end of the line, from the westward, Japanese shallow-draught vessels carried out a bombardment of the Russian positions, but the defenders took shelter, and returned in plenty of time to repulse the Japanese attacks. Eventually, when almost at the end of their resources, owing to shortage of transport, the Japanese got through on that flank by hard fighting, and so turned the Russians out of the Nanshan position. The Russians retired to Port Arthur, leaving Ta-lien-wan and Dalny, the latter a far better equipped harbour than Port Arthur, to the Japanese.

Oku moved northward and drove back a Russian force sent to relieve Port Arthur, General Nogi took command of the army to attack the Port Arthur defences. Nogi's force was at first weaker than the Port Arthur garrison, and he had to await reinforcements. After standing for a short time in an outlying defensive position, the Russians withdrew inside Port Arthur defences by July 31st, and the Japanese closely invested the place on the land side. By August 7th two 4.7-inch guns began to bombard the Russian ships. On August 10th the Russian fleet came out, trying to escape to Vladivostok. Admiral Togo was ready outside. An interesting action followed. The Russians returned to Port Arthur with the loss of one battleship, two first-class cruisers, and four destroyers, all of which escaped to neutral ports, and one second-class cruiser, which ran ashore.

Attacks were constantly launched against the land front of Port Arthur. In 1894 the Japanese had captured the place by assault from the Chinese in a single day. In 1904 the capture took over five months from the date of investment. The Japanese did all they could to destroy the Russian ships by bombardment, using ordnance as big as 11-inch howitzers on concrete platforms, but their fire was not decisive until a position (203 Metre Hill) was captured which gave a view of the target. That hill was taken on December 5th. By the 8th only one Russian ship, the "Sevastopol," was capable of movement. She put out of harbour, anchored, and was attacked by Japanese destroyers. Port Arthur was surrendered on January 2nd.

That successful combined operation settled the issue of the war. Not only was the Russian fleet destroyed, but the defended harbour was from thenceforth unavailable for the use of the Russian Baltic Fleet. Togo knew that Rojestvensky's fleet, when it arrived, must

make for Vladivostok. He cut it off and completely destroyed it in the Tsushima Straits on May 27th-28th.

With the land operations we are not concerned. After the capture of Port Arthur all troops that could possibly be spared were sent northward. After the Battle of Mukden, fought in March, both sides prepared to continue the struggle, but on August 8th, both countries sent representatives to Portsmouth, U.S.A., to discuss peace, having been invited by the President to do so on July 8th.

On July 10th the Japanese occupied Saghalien. Peace was concluded on September 5th.

*Lessons Learned.*—The lessons taught by the Japanese to the world in 1904-5 were those that had stood out conspicuously in the history of every amphibious war. The vital importance of secrecy about the destination of a combined expedition, and, when once the expedition starts, of rapidity in execution, which can only be attained by careful preparation. The selection of an objective which affects most seriously the issue of the war. The importance of devising some executive body to control operations so as to ensure the most effective use of fleet and army, working in conjunction with each other.

On the Japanese side we find that secrecy was maintained throughout. Rapidity was ensured by careful preparation. Transports were loaded so that what the troops required first was always on the top. Small, light-draught vessels were used so that they should be able to anchor as close as possible to the shore, and save long boat trips. Boats specially suitable for landing troops, guns, stores, and supplies were employed. Land transport was all two-wheeled, and guns on pack transport were used for the beach landings, so as to facilitate the disembarkation. For landing heavy weights and siege trains, good harbours were seized by attack from the land side as rapidly as possible. Everything was thought out beforehand, and everything was prepared, including lengths of telegraph cable to keep the landing place of the combined expedition in touch with headquarters; materials for piers, labour for their construction and for landing stores; armament and fortification material for defended bases on islands near the objective. That objective was always a hostile fleet or army, the mobile forces by sea or land that decide the issue of campaigns. There was no diversion of force until Japan's main object had been secured, and then only was Saghalien occupied to influence the terms of peace. For the all-important matter of central control, to ensure combined action, the Japanese executive body consisted of a council of seamen and soldiers, working and issuing orders under the authority of the Emperor. On this council Yamagata, one of the finest brains in Japan, who had devoted his life to the study of combined strategy, was an outstanding figure.

On the Russian side, neither sea or land forces worked on strategic principles; there was much friction and little co-operation between the services. The Russian system of control, on paper, was one of those ideal schemes that are drawn up in office arm-chairs. All authority over sea strategy, over land strategy, and over diplomacy, was vested

in one man, Admiral Alexieff. Perfect paper schemes assume perfection in human beings. This scheme required a super-man for its success. Alexieff's imperfection was conspicuous.

#### CONCLUSION.

These are too early days for us to complete the history of modern combined operations by a detailed account of the great amphibious war. I was once confronted by a friend with the startling announcement that "history was of no use in this war." It may be that it was not used. We ourselves undertook a great combined operation during the first year of the war. We failed conspicuously.

Instead of secrecy, we had advertisement of our intentions. Rapidity was rendered impossible by want of preparation and forethought. The embarkation was hurried, and stores hurled with such confusion into the transports that they had to be unpacked and completely re-stowed, causing a month's delay, of which full advantage was taken by the defenders. The objective selected was a town. The efficiency of the executive body controlling the combined strategy may be judged by the order given to the Navy, in defiance of every example in history, to "prepare to bombard and *take* (sic)," without the aid of troops, a large peninsula containing a hostile army of unknown strength.

I thank you for inviting me to address you on this subject, and I hope that I have made out a case for the value of historical study for those who aspire to the control of combined operations. It may be said that the use of submarines and of air-craft in the future will revolutionize the conduct of such operations. The warnings of history will help those who employ them to work on the right principles. These may be summarized as (1) secrecy as to destination; (2) rapidity in execution, obtainable only by careful preparation; (3) the selection of the right objective; and (4) the establishment of an executive body skilled in the conduct of amphibious warfare.

#### DISCUSSION.

DR. MILLER MAGUIRE; At the risk of being considered rather impudent, I venture to open the discussion upon this very interesting paper. The learned lecturer has said that there has been a good deal of amateur criticism in regard to the great campaign in which we have just been engaged, and in regard to that particular campaign I cannot pretend to be even an amateur. Before that campaign began, the most marvellous success of the island power of Japan against Russia recalls to our memory the success of another island power in Western Europe which rivalled in the 18th and 19th centuries the success of the island power in Eastern Asia in the 20th century. I happened to be engaged in the study of history at that time, and I was consulted officially by a representative of the Japanese Government in regard to the matter, and I can heartily support by experience the views of the learned lecturer about the value of history. The Japanese throughout their war with Russia were most enthusiastic students of history, whereas at the very same time it was studiously ignored by the nation that had more combined naval and military expeditions to its credit than all the other nations put together; that is to say, our own nation. History was at a

discount from the combined military and naval point of view. What it was no one knew; and the principles which have been enforced by the lecturer were ignored deliberately. Now and again gentlemen like General Caldwell, in his book, "Maritime Operations by Sea and Land," and the American Admiral, Mahan, set forth the lessons that history had taught in the Mediterranean in the times of the Greeks and Romans; they argued that they admitted of no discounting and of no variation, and that exactly the same applied whether sailing ships, steamships, aeroplanes, or submarines were the instruments that were used. You must aim at the destruction of the enemy's man-power. You cannot change the nature of man; man will always be the same. The Japanese sent emissaries to this country. Not only did they consult us and send gentlemen to learn at the feet of our professors of history, tactics, and strategy, but they absolutely admit that their campaign of 1904-5 followed in every particular the principles, the strategy, and the change of base and other matters of our campaign in the Peninsula. I do not think that the lecturer told us anything about the change of base. Time does not allow me to enter into the history of the matter fully, but I congratulate the lecturer on having introduced the subject and of demonstrating it so forcibly as he has done in the case of the Japanese. The long line of communications of the Russians did not enable them to cope with a rapid transmission of force by sea from one place to another. The lecturer referred to secrecy and celerity. Our own celebrated observer, Bacon, in his Essay on Dispatch, mentions that secrecy and celerity are the life of dispatch in all military operations. Before you begin to fight you must have secrecy, thought, wisdom, the lessons of experience; and when you come to fight there is no secrecy better than celerity, rapidity, mobility, and that is obtained better by means of ships than by any other means. Secrecy and celerity, the study of history, a good start, and a proper selection of the objective, in the true sense of the word, were what the Japanese had. In the library upstairs there is a book called "Boujet's History of the Russo-Japanese War of 1904-5," and in it you will find that while the Japanese magnified courage, they even more magnified wisdom; and the author also states that the Japanese owed their success to a careful study of Wellington's operations and of our naval operations in 1808, 1809, 1810. As no one else rose to commence the discussion I have ventured to do so, and to congratulate the author on his paper because I am particularly interested in history, and because I dealt myself with the campaign of 1904-5.

WING-COMMANDER H. LE M. BUCK: I think you will all agree that we ought to study history from the point of view of what will happen in the future, and, as a representative of the Air Force, I attended the meeting expecting to hear a few words regarding future operations in the air, although the lecture was not entitled "Air Warfare," but "Combined Operations." I know that Sir George Aston has given a great deal of attention to air warfare, because when I was an instructor, in 1915, at the Central Aviation School, I used to read a good deal of his book on "Further Land and Sea Strategy." When I was there as lecturer on operations I used to read the last two or three chapters of his book particularly. I hope when the next edition of the book is published the lecturer will put those three chapters at the beginning. Books have recently been published by Lord Fisher and by Sir Percy Scott dealing with the subject, and they both remind us of what a great future there is in the air. Sir George Aston has laid great stress on preparation for combined operations, and one point I want to make in that connection is the desirability of having a combined Staff College. If we want to make proper preparation for combined operations in the future I think we must have a combined Staff College comprising the Navy, the Army,

and the Air Force, instead of having three separate Staff Colleges. I think that is a point that is worth pressing if others are in agreement with it.

THE CHAIRMAN: The points which have been so ably raised by the lecturer in his paper are indisputable because they are founded on history. Whether we as a nation have learned them or not is another point. It seems to me, however, it is very fundamental for an island power to learn these lessons, because we cannot move our Army or even our Air Force out of the country without ships, and therefore the work must be a combined operation between the Army, the Navy, and the Air Force. There is one point in connection with combined operations which I do not think the lecturer mentioned, viz., the expeditionary forces to France. I do not think you laid any stress on that?

SIR GEORGE ASTON: No.

THE CHAIRMAN: That combined operation was fundamental to our success in the war, and I think all the departments and officers concerned with the preparation of those operations deserve recognition for their wonderful work and the accuracy and secrecy with which it was carried out. It was carried out with wonderful secrecy, because nothing was known about the expeditionary force, except in the departments concerned, until that force was actually in France right up at the front. It was a wonderful performance. Although we are not always wise we were wise on that occasion. Everything had been well thought out. We did not put the stores in the wrong place as has been so often the case before when we have had other secret expeditions. It must be remembered that we have had other secret expeditions in the past; there was one when Lord Wolseley occupied the Suez Canal. There is one point brought out by the Spanish-American War that I should like to mention. Admiral Cervera was in the harbour of Santiago for a month before the Americans located his squadron. Admiral Schley did not discover him for a week or ten days. That is where the Air Service will take a leading part in future, and also it must be remembered that the squadron would not have been able to lie anchored off Santiago in the presence of submarines. As the lecturer and Dr. Miller Maguire have said, history and strategy remain true, but you must adapt your strategy to suit the weapons in use at the time. Another point that the lecturer has brought out is that in one case that he mentions the Army did not land in the presence of defended ports, but landed away from the defended ports, because they knew that the point of landing was the weakest point of an army or sea force. That was forgotten, perhaps, on certain occasions during the war we have just been through. The Navy did not think they could take defended ports without the use of the Army; and if you notice the main function of the army in both the wars that the lecturer has referred to—the Spanish-American War and the Russo-Japanese War—was to take the port so as to capture the navy of the enemy. In conclusion, I desire to say that I am echoing the wishes of all present in thanking the lecturer for the most interesting and instructive lecture he has given us this afternoon.

MAJOR-GENERAL SIR GEORGE ASTON, in reply said: Gentlemen, you have been very kind to me; I thought I should be confronted with much criticism. I would like to say, in the first place, with what pleasure I have seen my old friend Dr. Miller Maguire here this afternoon and listened to what he had to say. He has given me a very useful line of argument. I referred in my lecture to only one operation in this war, because I think you will remember I mentioned that I did not think the time had come to write fully with regard to the recent war because we have not got the data. Dr. Miller Maguire raised the question whether

our sailors and soldiers were carefully taught before the war. As a humble teacher both of our soldiers and sailors before the war for many years, I can only say that I was associated with a large number of other teachers, and that our soldiers and sailors were thoroughly well taught and thoroughly well conversant with every principle that I have mentioned this afternoon. The operation to which he referred has been investigated by an important Commission, which reported that the whole scheme had only secured, to use their words, the half-hearted and hesitating support of sailors and soldiers. I think that answers the point. With regard to the quotation he made from Bacon of "Secrecy and Celerity," I wish I had managed to get hold of it, because it is a very excellent quotation to put into the lecture. Celerity is the best form of secrecy when once you have given away your objective. I was very much interested in Commander Buck's remarks. I am very glad to hear that he has read my "Sea and Land Strategy," because it has had a very small circulation. I thoroughly agree with the importance of the air problem, but I did not rub in the future because I was almost afraid to prophesy. I should like to say that I have spent a great many years of my life studying the writings of all sorts of people on naval strategy, and, taking the various campaigns, I am sure the Chairman will bear me out that from the Blue Books the strategy adopted in the old days was always with the object of destroying the enemy's ships at sea. If you look at the lessons of history you will see that their destruction in harbour was a much more difficult thing, and I think we should now draw the attention of scientists and those possessing inventive power to the importance of destroying enemy ships in harbour. I think that is a problem that will revolutionize the whole of naval warfare in the future. The problem of the destruction of enemy ships in harbour is as important as their destruction at sea, and the extra opportunities which the tremendous advance in knowledge of movement by means of the air has introduced may create a revolution in the whole of our conception of sea power and of sea warfare. I am very glad that the Chairman gave me the opportunity of making that remark because I hoped to get a chance of bringing it forward this afternoon. I have nothing else to answer except the point raised by the Chairman with regard to the expeditionary forces. You must remember that I had only an hour in which to deliver this lecture; but if instead of taking the Peninsula you put up a map of the world, you can trace out in the present war the whole of the principles that were then adopted. You find that the army which has to do the big fight on land ultimately destroys the fleet. The German Fleet was in harbour and did not put out from that harbour until their *morale* was doubly shaken, first by the Fleet at sea and then by the defeat of the German Army on land, exactly in the same way that the Port Arthur Fleet was destroyed after the destruction of the Russian Army. I thank you very much for the exceedingly kind way in which you have listened to me.

ADMIRAL W. F. S. MANN: Ladies and Gentlemen. I ask you before we separate to accord a very hearty vote of thanks to our Chairman for presiding over the meeting this afternoon. Admiral Sturdee's name is now known all over the world; he arrived in the nick of time off the Falkland Islands and destroyed the German forces through which, unfortunately, we had suffered grievous loss only a short time before. I am sure you will desire to thank him for being present to-day and so ably presiding over the meeting.

The resolution of thanks was carried by acclamation.

THE CHAIRMAN: Gentlemen, I thank you very much indeed for the kind way in which you received the vote of thanks and for your appreciation of my small

efforts. There are two points I should like to refer to before the meeting closes. With regard to the suggestion that was made for a combined Staff College, I think it is very important that there should be representatives of the Air Forces, the War Office, and the Admiralty present, because it is a combined work; but I do not know that you want to do the whole course of military tactics, because that would be a very long course. I think each service ought to appreciate the difficulties and requirements of the other. Sir George Aston also mentioned a very important point, viz., the question of destroying the enemy's fleet in harbour. That has always been a very important problem for a great naval Power, because the weaker naval Power does not send its fleet to sea. I see several young officers present, and I hope we shall get some inventions from them with the object of destroying enemy fleets in harbour. Of course, at the same time, we must remember that they may come and try to destroy ours.



## THE AIR FORCE.

By AIR COMMODORE H. R. BROOKE-POPHAM,  
C.B., C.M.G., D.S.O., A.F.C.

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On Wednesday, December 3rd, 1919.

MAJOR-GENERAL R. M. RUCK, C.B., C.M.G., in the Chair.

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THE CHAIRMAN; Ladies and Gentlemen. Before we begin the lecture I am sure you would like me to make some reference to the death of that distinguished soldier, Sir Evelyn Wood. Sir Evelyn was a Vice-President and a member of the Council of this Institution for a long period, and he always took the keenest interest in its affairs. This is not the time for me to endeavour to give a long account of his distinguished services, but I should like to pay a short tribute to his memory. Five and a half years ago you will recollect that we sent out the largest and best equipped force that ever left these shores. To the enemy it was a small force—insignificant, some called it contemptible, yet I think we may claim for that force that it saved the fate of Europe and gave our nation a new lease of life. Now, that force could not have arisen from nothing. It required years and years of effort. I myself had very favourable opportunities of watching the growth of that force, for during the last thirty-five years I have spent some seventeen years at the War Office when that force was being made. It appears to me—and I am sure most of you will agree with me—that there were four great soldiers concerned in the making of that force, viz., Lord Wolseley, Lord Roberts, Sir Redvers Buller, and Sir Evelyn Wood. There was, to my mind, a fifth great soldier concerned, because I believe that very largely the humanity, the discipline, and the sense of duty that permeated that force in 1914 were to a great extent due to the old Duke of Cambridge. If we, like the Japanese, worshipped our ancestors those five distinguished men would be raised to the very highest pinnacle of fame; but that is not our custom. All I would say to you is: what fate could be finer, what more in accordance with the wishes of Sir Evelyn Wood himself, than that he was numbered amongst the pioneers of the immortal army of 1914.

Gentlemen, to turn to the subject of our lecture this afternoon, I felt honoured at being asked to come here to preside to-day, and it is a greater honour to me from the fact that the lecture is going to be delivered by my old friend, Air Commodore Brooke-Popham. As many of you know, Air Commodore Brooke-Popham was one of the pioneers of the Flying Corps, and some years before the war he distinguished himself both in aeronautical matters and in flying. He afterwards went to France in 1914 with those immortal squadrons which made the reputation of the Air Force. Since coming home he has greatly distinguished himself on the technical and scientific side of the Air Ministry; and therefore I am sure you will agree with me that we could not possibly have an officer more eminently qualified to lecture this afternoon on the subject he has chosen for the lecture. I will now ask Air Commodore Brooke-Popham to give his lecture.

## LECTURE.

THE subject of this lecture is not so ambitious as its title.

I propose this afternoon to confine my remarks almost entirely to technical matters connected with heavier-than-air craft.

I shall in the course of this lecture talk about some very elementary scientific facts which everybody knows, and for the introduction of which I feel I shall owe an apology; but I have often noticed that people who only move on the surface of the sea and earth fail to realize how these elementary facts affect those who move in three dimensions instead of only two. Some of the explanations I shall give may not be strictly accurate from the scientist's point of view, but they will, I hope, indicate what the actual effects are.

I have also many pieces of apparatus here which are used on aeroplanes, and the use of which will be explained after the lecture by officers of the Air Force, to anyone who is interested in the matter. I should, however, like to remind you that they are merely exhibits and not souvenirs.

The first point I wish to make clear is that an aeroplane, when flying, is severed from all connection with the earth and is dependent entirely upon the air. If the air is moving the aeroplane moves with it, and this movement is combined with any that the aeroplane itself has through the air. Consider a man walking down a corridor of an express train. He is moving relatively to the train and to the other passengers sitting in it, but in the meantime the whole train and everything in it is being carried along relatively to things outside. In this case the train represents the air and the man in the corridor represents an aeroplane moving through the air but carried along with it. The simile is, perhaps, not a very good one, because the relative speeds are so different in the two cases. The aeroplane nearly always travels faster than the wind, but a man does not generally walk as fast as an express train—at any rate on the majority of English railways.

When we talk of the speed of an aeroplane it always means speed through the air. The speed relatively to the ground depends entirely upon what the air is doing at the time. If, therefore, the aeroplane has a speed of sixty miles per hour and is moving east and there is an east wind of sixty miles per hour, the aeroplane will be stationary relatively to the ground, but if the aeroplane turns round so as to fly with the wind then it will be moving over the ground at a speed of 120 miles per hour, though its speed through the air will be the same in each case. Provided the aeroplane is flying straight, any occupant of it who puts out his hand will feel the wind blowing against it in the same direction and with the same force, whether the aeroplane is heading into the wind, travelling with it, or moving at any angle to it.

Now go back a minute to the man in the train corridor. At night, when the blinds are pulled down, he will have no means of judging the speed of the train relatively to the earth, except somewhat indirectly by the noise or by the jolting and swaying that he feels.

If we imagine a perfectly smooth railway track and indulge in a certain amount of optimism, it will be quite possible for the man to be unaware that the train was moving at all unless he pulls up his blind and sees the lights go by. So it is with an aeroplane. If a man is out of sight of the ground he has no means of telling how he is moving relatively to the ground; any instruments that he has only tell him his speed through the air, and unless he knows the force and direction of the wind he cannot tell his speed with reference to the ground, unless he also knows exactly how the air is moving with reference to the ground.

I might mention that wind is always a disadvantage to an aeroplane if one wants to get to a place and come back again.

The next point to remember is that the pressure of the air decreases as one goes up; this decrease of air affects the aeroplane, the engine, and occupants of the machine.

As regards the aeroplane it means less support, and therefore, other things being equal, the machine has to be flown at a rather greater angle in order to keep at the same altitude.

Next, the resistance is reduced, therefore, other things being equal, the aeroplane will move faster.

As regards the engine. The power developed by the engine, supposing the carburation to be correct, depends ultimately upon the weight of the mixture, i.e., the amount of petrol and air that can be drawn into the cylinders. The cylinder volume remains the same, and the weight of air in a given volume gets less as one goes up; therefore, the weight of mixture drawn into the cylinder decreases, hence the horse-power goes down.

To take a well-known engine that gives 360 h.p. on the ground, at 15,000 feet it will only give 200 h.p. Another way of looking at it is that an engine that weighs 3 lbs. per horse-power on the ground will weigh  $5\frac{1}{2}$  lbs. per horse-power at 15,000 feet.

There is also the effect on the propeller. Owing to the decrease of air pressure the propeller is rather easier to turn round, and for the same horse-power the engine will turn round faster.

The net result of all these factors is the decrease of performance with altitude.

Attempts have been and are being made to get over this effect, chiefly by forcing air into the cylinders instead of merely drawing it in, thus getting an additional amount at each stroke. This is helpful, but introduces additional mechanical complications. You will remember that at a height the propeller turns faster for the same horse-power. Therefore, if one keeps up the power of an engine at heights it will either be turning the propeller too slowly on the ground, and the machine will not go up at all, or else it will turn so fast when it gets to 15,000 feet that something will break.

The only means of getting over this appears to be to use a propeller having some method of altering the pitch.

Also, there is the effect on the occupants of the machine. As is well known by any mountain climber, when the air pressure is

reduced any physical effort becomes exhausting. In addition, a species of brain fog frequently develops.

The height at which these effects become serious vary considerably with individuals, and in many cases people seem to become acclimatized, as it were, to reduced air pressure.

Early in 1916 we realized that this was going to be serious, at any rate in the case of pilots and observers, who would have to remain at high altitudes for long periods, as on long bombing raids. The effects are ultimately due to deficiency of oxygen, and the obvious remedy is to make good that deficiency. During the war we used compressed oxygen, and, to regulate the supply, a beautiful apparatus was designed by Professor Dreyer, of Oxford, and constructed under his supervision in Paris; in fact, the first samples were made practically with his own hands. This apparatus automatically supplies the occupants of the aeroplane with the correct amount of oxygen for the height they happen to be—the higher they are the more oxygen is fed to them. It has since been decided to abandon compressed oxygen in favour of liquid oxygen, but up to the time of the Armistice we had not any of these latter sets out in use in France.

The next point is the decrease of temperature as one goes up. This has a certain effect on the engine, e.g., it is necessary to have arrangements for warming the mixture before it is admitted to the cylinders; and we also had a good deal of trouble in finding a suitable lubricant for machine-guns.

The most serious effect of low temperature is, however, on the occupants of the machine. A temperature of minus 20 deg. Fahr., which is not unusual, is, I am informed, the average winter temperature at the South Pole. At this temperature any metal that is touched with the bare skin will have a serious effect. I remember one incident of an observer who for some reason or other touched his gun with his mouth, and left the greater portion of his lips sticking to it.

It was found that mere passive resistance to cold was of little real value in these extreme temperatures, and eventually we made use of electrically heated clothing. After a few little minor troubles, such as the current being too strong and setting the clothing on fire, this functioned most satisfactorily.

The next point is that the wind changes, both in force and direction, as one goes up. Unless this fact is borne in mind the results will be very disconcerting.

I worked out what would actually happen to an aeroplane flying from Hounslow to Exeter on a typical day, recently.

The distance from Hounslow to Exeter in a straight line is 147 miles, and I took the speed of the aeroplane as eighty miles an hour.

If the pilot had merely considered the wind direction and force on the ground, and then flown accurately on that basis at a height of 12,000 feet above the clouds, so that he could not see the ground, when he came down through the clouds expecting to be over Exeter, he would have found he had flown off England altogether, and was over the Channel more than twenty miles from the nearest land.

I might mention here that flying can be carried on in extreme condition of cold. In Northern Russia last winter the ground temperature was sometimes down to minus 27 deg. Fahr., i.e., 59 degrees of frost, but flying went on. With this degree of cold the running of water-cooled engines presented great difficulties, and in Russia rotary engines were found the most satisfactory type.

Although statistics, when adequately handled, can be so adapted as to prove any theory, I am going to inflict a few figures on to you in order to give some idea of the progress made during the war.

At the date of mobilization there were 272 machines of all sorts in the R.F.C. and the R.N.A.S. combined. Of these it is probable that not more than ninety were fit to take to war. With regard to the R.F.C., we actually crossed to France on August 13th with thirty-two machines in units and a further twelve in reserve. We left in England sixteen war machines which came over later. In addition there were a certain number of training machines left and a good many unserviceable ones, but, as far as the R.F.C. was concerned, this absolutely drained England of every available machine fit to take to war.

Another interesting point is that every one of the engines that we took over to France was not only of foreign design, but of foreign manufacture; there was not a single English engine in any of the machines that we took over to France.

At the time of the Armistice the daily production in England was at the rate of ninety machines per diem; that is, just about the total number we had fit to take to war at the beginning. Also of the engines with which these machines were equipped, about one-half were of English design and all except a small proportion were of English manufacture.

During the war machines improved out of all knowledge as regards their fighting and warlike qualities generally, in such points as manœuvrability, facilities for view, ease of handling the guns, and, indeed, the possibility of firing from the aeroplane at all.

There is no doubt that the Germans, at any rate, considered our machines greatly superior in fighting qualities to their own. For instance, in the examination of one pilot captured in February, 1918, he stated that, owing to the superiority of British scouts and to the success of our offensive policy in the air, the German aircraft had been forced entirely on the defensive by day, and that bombing by night was the only method by which they could carry out an air offensive over our lines.

The following extract from a captured letter, dated July 11th, 1918, shows the German opinion at that time.

"The enemy has got faster and more flexible machines, and one can only pity our clumsy things together with their occupants. They are under such hot fire that they have no alternative except to crash."

Also the performance, i.e., speed and rate of climb, was doubled or trebled, but this was not obtained by any real increase in the aero-

dynamic efficiency of the machine. All we did was to pile bigger and bigger engines into the machines and drag them along by brute force. Individual engines increased in horse-power from 70 to 450, and much higher powers are now under construction. It requires very nearly the same amount of horse-power to drag a given weight through the air at a given speed now as it did at the beginning of the war. This is rather a disappointing admission to make, but it must be attributed largely to the exigencies of rapid production during the war. There was no time for research, no time for striking out on original lines which might require months or years of experiments before any definite result could be achieved. There was a continual cry for better performance from the Expeditionary Force, and the readiest methods of obtaining this was by increase of engine power. This shows, however, that there is still a vast field open for improvement in the aeroplane itself, but this can only be obtained as a result of lengthy experiment and research which, unfortunately, cost money. For instance, a very elementary form of apparatus for aerodynamic research consists of a wind channel—simply a big wooden tube through which air is drawn. However, to install a modern apparatus of this nature would cost £20,000, and the whole time it is running it is using some 200 h.p. If we are going to get any advance in aerodynamics at the present time the country must be prepared to spend money on it, and to realize the necessity for long and laborious research. As a rule one only sees the result, and thinks that some marvellous improvement is invented in the course of a few hours, or possibly days; people seldom hear of, or if they do, get bored, with being told about the patient experiments, numerous failures, the time and money which had to be expended before the result was reached. It is no good waiting until the results are wanted before beginning the experiments; if one wants improvements in five years time one ought to start now. I would also like to point out that most aeronautical problems involve abstruse research into chemistry, physics, and allied sciences, and that no great progress can be hoped for unless the great scientific brains of this country bring their aid to help in the solution of these problems.

Another point to note while on this subject is that the development of aircraft for civil purposes is by no means on the same lines as that necessary for military work. For instance, in the military machine rapidity of climb is of the utmost importance. This, however, is not in the least necessary in a civil machine, and consequently machines of relatively less horse-power are wanted; no one wants to fly at 20,000 feet for choice nor to get up there in twenty minutes. I venture to suggest that in the design of civil machines we are still working too much in the war groove; civil design wants to get out and expand on new lines, founded on basic principles, and not handicapped by the exigencies of war.

I will only just touch on engines long enough to mention that air-cooled engines have many advantages over water-cooled engines for military purposes. This is chiefly due to the large increase in the vulnerable target which is entailed by the use with the water-cooled engine of a radiator and a large amount of water piping.

For civil purposes this argument in favour of air-cooled engines does not, of course, hold good.

Aeroplane squadrons are expensive items to keep up under the strenuous conditions of a European war, and the wastage of aeroplanes is very heavy. During the last eighteen months of the war, the average wastage was 51 per cent. per month, i.e., all the machines with squadrons in France had to be replaced once every two months or six times a year. In other words, each machine only lasted an average of sixty days, which would mean a little over sixty hours' flying per machine.

This is only the average. Wastage in certain types of machines was sometimes over 80 per cent. in one month. On the other hand one machine did 440 hours' flying in France and was then flown back to England. This, by the way, was an R.E.8, a type of machine that at one time got rather a bad reputation.

Of course, considerable use was made of the machines that had to be replaced. Large numbers were reconstructed in France and others were reconstructed in England, and in any case they were dismantled for spare parts, but as far as the squadrons were concerned, replacements were required at the rate I have mentioned.

As regards the causes of wastage, that known to be due directly to enemy action never reached 25 per cent. To that should be added a proportion of the missing machines, but even adding these in, it is very doubtful if the wastage due to enemy action ever amounted to more than a third of the total losses. The wastage due to errors of pilots varied. Whenever we had heavy casualties in pilots it meant that a large batch of new pilots came out from England, who were unused to the country and lacking in experience; consequently a heavy casualty list in pilots was generally followed by a large increase in the number of aeroplane casualties due to errors of pilots.

This heavy wastage means keeping a very large reserve in order to ensure that casualties are replaced at once, and this is complicated by the fact that we always had a large number of different types of both machines and engines out in France.

Of first importance in connection with the upkeep of aeroplanes is the supply of spare parts. An infantry soldier can still be of considerable use as a fighting man even if he is deficient of certain parts of his equipment; for instance, if he has lost his water bottle his efficiency is not seriously impaired, but the matter is very different in the case of aircraft. The failure of one small bolt, even the absence of a washer or split pin, may convert a whole aeroplane from a valuable weapon of war to a useless encumbrance on the ground. During the war we seldom had any particular type of aeroplane long enough even to say what particular part was likely to show weakness and require replacing first, and it is, of course, quite impossible to say what particular form of bad landing a pilot may make and then what particular part of the machine he may damage, and still more what particular part of a machine may be hit by an enemy bullet.

Therefore, we always had to be ready to replace any and every part of an aeroplane and have a large stock of each part ready for issue to squadrons.

Apart from the material necessity for keeping squadrons up to strength in machines, there is the moral effect on pilots to be considered. Quick replacement of casualties is the most efficient method of restoring *morale* after heavy losses, and in the case of the Air Force it is just as important to keep units up to establishment in aeroplanes as it is to keep them up in pilots or observers. A squadron's *morale* will soon begin to drop if, instead of being able to send eighteen machines up into the air as it should, it has only got a total of twelve, of which about half are out of action for want of spare parts.

It is, therefore, of the highest importance that spare machines and spare parts of every sort shall be instantly available. This means large base depôts and an efficient channel of supply between depôts and squadrons, and on the sound working of this supply system the efficiency of the Air Force in any theatre of war very largely depends.

I might add that these wastage figures are for European war conditions, and will be less in small wars, and bear very little relation to the probable wastage of civilian aviation.

On a clear day, provided one is flying over land and has got maps, navigation of aircraft, i.e., the guiding of the aeroplane from one point to another, is a simple matter and a pilot ought not to lose his way. These conditions are, however, not very frequent in England, and if one is above the clouds or can only see the ground indistinctly recourse must be had to instruments.

Primarily the most important are the compass and the air speed indicator. The former should point to the magnetic north and, therefore, indicate the right direction. The latter measures the speed of the aeroplane through the air, and in conjunction with a watch should give one the distance travelled. In practice, however, various difficulties ensue. First, as indicated at the beginning of this lecture, aeroplane instruments take no notice of what the wind is doing. If there is a head wind the distance covered will be less than that indicated by one's instruments, and instead of having got to one's destination one may be several miles short of it. Or if it is blowing from the side a pilot may get miles off his course. If one cannot see the ground at all, as in the case when flying above clouds, there is nothing to guide one as to the strength and direction of the wind, and one has to depend entirely upon meteorological information, which thus becomes of the utmost importance to successful navigation. With existing instruments and the meteorological information that can be furnished at the present time, there is no reason why an ordinary good pilot should not get to his destination with a maximum error of ten per cent. of his destination, even though he is out of sight of the ground all the way, i.e., if he wants to get to a place 50 miles away above the clouds, he should get within five miles of it.

There are certain difficulties connected with steering an aeroplane by compass. To begin with there is the question of vibration. When certain types of compasses were mounted in certain types of aeroplanes it was found that the vibration of the latter acted upon the compass to such an extent that it rendered it quite useless. In fact, in some cases

the compass card or needle simply kept on turning round and round. Then another peculiar effect, noticeable, so far as I know, only in an aeroplane, is what is termed as the northerly turning error. This is really due to the fact that the magnetic force of the earth does not act horizontally, i.e., it does not pull the magnetic needle directly towards the magnetic pole, but at an angle of about 60 degrees downwards. The full explanation would take rather too long, but the net result is that if, when flying on a northerly course, the pilot turns either to the east or to the west the compass is very liable either to show no turn at all or, in certain cases, to show the turn in the opposite direction. It will eventually come right, but during the process of the turn its indications may be somewhat confusing to the pilot.

Lastly, there is always a certain amount of lag in a compass with reference to the aeroplane. A compass will not indicate to a pilot just when he is commencing to turn, and may show him as still turning after the turn has stopped. If the pilot, trying to fly straight, simply watches his compass only, he is very liable to over correct any error, and to start swinging his aeroplane first to one side and then to the other in ever increasing arcs, which may finally come to a complete circle.

We have got over the vibration difficulty pretty well now, by improvements in construction, and methods of mounting and the other difficulties may, I think, be considered as solved by the use of turn indicators. The latest pattern is of the gyroscopic type. Everyone knows the principle of a gyroscope, i.e., that it always resists any attempt to shift the direction of its axis. The simplest type we use is a flywheel driven round by the action of the air, and indicating on a dial in front of the pilot whenever he is trying to shift the gyroscope's axis, i.e., whenever the aeroplane is commencing a turn. By watching this gyroscope and by occasionally checking his course by the compass a pilot should be able to hold a true course.

There is one difficulty about flying above clouds, and that is that the pilot never is quite certain how much clear space there may be between the clouds and the ground at his destination. They may have been a thousand feet when the last telegram arrived before his departure, but may have come lower, possibly down to the ground, by the time he arrives.

Also, in the absence of some special indication, a pilot will not know when he is exactly over his destination and may be trying to come down through the clouds to pick it up when he is, say, five miles off. Now, although the clouds may be a thousand feet above the ground at his destination, there may, five miles away, be a hill a thousand feet high and the first indication the pilot has of this hill may be hitting it hard. On a properly organized route, however, both these difficulties could be got over by a system of signals. For instance, one method would be to put up a kite balloon above the clouds, which would not only indicate the exact position of the aerodrome, but also signal, by means of coloured flags, whether it was safe to land or not. Or wireless messages could be used.

Let us now consider actually flying in clouds. Now this introduces many other complications. In every other case the pilot has got some reference point to guide him. It may be a portion of the ground, a cloud, a horizon or the sun. Any of these will help him to keep his direction but as he is actually flying in a cloud he has no external assistance. Everyone knows how difficult it is to keep a true direction when walking through fog. Most people after walking in a fog for some time find themselves going in circles. It is exactly the same in the case of an aeroplane in a cloud. After two or three minutes all sense of direction is lost, but in this case it is not a question of merely going round in a circle on the surface of the earth, one has got to bring in that third dimension again, and unless the pilot has some instrument to help him, he will lose not only all sense of direction but also all sense of vertical and horizontal.

There may be pilots who can fly in clouds without instruments, but I have never met one. In the days when we had no instruments the aeroplane generally got completely out of control in a cloud, and it was a frequent occurrence to emerge from the cloud apparently flying straight into an immense vertical cliff. It was not until one saw trees or houses sticking horizontally out of this cliff, that one realized that the cliff was really the ground and that it was one's self that was vertical.

No instrument that depends entirely on gravity is of much use to a pilot, because they are all affected by the acceleration of the aeroplane. If the aeroplane decreases its speed from any cause the gravity controlled instrument would show that the aeroplane was diving, and if a pilot pulled the nose of his aeroplane up under such conditions he might possibly lose flying speed and, consequently, control altogether. The fore and aft position is, however, shown indirectly by means of the air speed indicator. When this indicator goes up it indicates to the pilot that he is putting his nose down and *vice versa*. His direction can be kept by making use of some form of turn indicator, and at present his lateral position is indicated by a spirit level. This is, of course, merely a gravity controlled instrument, and therefore subject to errors, but the lateral accelerations are not usually important and consequently the instrument is fairly trustworthy.

The real difficulty, however, lies in the fact that the pilot has now three instruments to watch, in addition to any connected with the running of his engine, and I think this is too many. This might be got over by the use of inherently stable machines. Another possible solution is to cut out one of the unknown factors altogether by fitting some sort of automatic control to stabilise the aeroplane in one of its three dimensions, probably as regards the lateral control. This control might be actuated by a gyroscope and only switched into action when the pilot is going into a cloud. Even without this, however, it can safely be said that instruments now exist for enabling a pilot to fly under any conditions of weather, although the problem of effecting a landing in a fog that reaches to the ground, still awaits a satisfactory solution. They must, of course, be trained in the use of these instruments, and also it is necessary, for successful navigation, that there should be accurate and quick

meteorological information, and some means of indicating the exact position of the landing place and the weather conditions at the far end.

As an indication of what can be done the statistics, giving the results of the aeroplane passenger service to Paris are very interesting. They have been published in the papers.

I may say that I think this autumn the weather has been exceptionally bad from a flying point of view, and that those results not only are evidence of a very thorough organization but a tribute to the skill and determination of the pilot.

Another point, where knowledge of wind direction and force at different altitudes may be of immense value to aviation, is in indicating at what level it is best to fly in order to reach one's destination quickest. As I have shown, the wind varies considerably in force and direction at different altitudes, and if one has accurate information throughout the route it is quite easy to increase the speed on one's journey considerably by flying at the most favourable altitude. Apart from other considerations therefore, I think that civilian machines may frequently require to fly at heights of 20,000 or even 25,000 feet.

Now, as regards navigation proper, i.e., finding one's geographical position when over the sea or possibly a desert. The problem is the same as that which faces a sailor and can be solved in the same way, i.e., by sextant observations of the sun or stars. There are one or two special difficulties with regard to carrying out sextant observations from aircraft. First, the confined space in which the navigator has to work. Then at the height at which the aircraft fly, it is often difficult to get a horizon at all, and when it is, allowances must be made for the height of the aeroplane above the horizon. The difficulty of getting a real horizon has led to many attempts to use an artificial one. This is rapidly approaching solution, and a very satisfactory form of air sextant has already been evolved, in which a small air bubble takes the place of an artificial horizon. As you will see, this again is one of these wretched gravity controlled instruments, and consequently liable to errors of acceleration. The results, however, of various tests indicate that these errors are not so great as to reduce the value of the instrument to a serious extent.

A second method of navigating aircraft is by the use of wireless. As is well known, it is quite a simple matter to find the direction from which a wireless signal is being sent, by means of a rotating coil. When the coil is pointing towards the sending station the signals are heard at a maximum, and when it is rotated, so that the plane of the coil is at right angles to the direction of the sending station, then the signals die away altogether. The plain rotating coil would not give very accurate results, but the method now being used is to have two coils at right angles to each other. The operator connects his telephone to the first coil and has a reversing switch, whereby the strength of any signals received in the second coil can either be added to or subtracted from the strength of the signals received in the first coil. Now, when the first coil is pointing exactly towards the sending station, the second coil will be exactly at

right angles to this direction, it will not receive any signal, and consequently moving the reversing switch will make no difference to the sound that the operator hears in his telephone. Consequently, all he has to do is to keep on moving the coils until he finds a position where the addition or subtraction of the second coil makes no difference. Then he knows that the first coil is pointing directly towards the sending station. This method may be used either to fly towards the station like a ship flying towards a lighthouse, or by means of finding the direction of two sending stations to get an intersection, and thus fix one's position.

I have no time to refer further to wireless as applied to aircraft, beyond merely mentioning the fact that the wireless telephone either between machines in the air or between machines on the ground is now satisfactory. A conversation can now be carried on between an aeroplane and the ground, up to a distance of 25 miles for certain, and messages have been sent by wireless telephone from an aeroplane from over 100 miles. As showing the great importance of wireless in the Air Force during the war, it may be mentioned that at the time of the Armistice there were 520 wireless officers and 6,200 wireless other ranks in the Air Force in France.

At the end of the war at any rate, if not all through, our wireless apparatus was greatly in advance of anything the Germans had got.

In this connection, the following extract from a German order, with reference to the salvage of wireless fittings off any aeroplanes that came down in their lines, is interesting. It refers to continuous wave apparatus :-

"So far, few fittings of this type have been captured by us, and in order to enable us to make use of this method as soon as possible, and also so as to save millions which will have to be spent in experiments, it is everyone's duty to see that all wireless fittings from captured aeroplanes are salvaged as completely as possible. Even the smallest pieces will be collected. The sums paid for the salvage of wireless fittings will be high."

One little incident in connection with photography, a subject which is worthy of its own lecture. A photograph of a hostile trench was once urgently required by an Army Headquarters. A print was delivered at H.Q. within 30 minutes of the aeroplane leaving the ground, and about 45 minutes after it was ordered.

Armament, again, I can hardly touch on, but I should like to say one or two words about bombing. The first point is that during the war we really never got going with bombing on an extensive scale, partly for lack of suitable bombs, but chiefly owing to want of suitable machines. In addition to this, the bombs were not always dropped in the most effective manner, partly owing to lack of time for training pilots and observers in the use of bomb sights, and partly because the ground personnel were not sufficiently trained in the handling of bombs, with the result that quite a large proportion of them were badly assembled as regards their detonating components and failed to explode

when dropped. Another reason was the lack of military training of pilots and observers. This may seem rather far fetched, but the effect was that they did not appreciate in many cases the military significance of their particular mission, and were inclined to drop their bombs on some neighbouring and more attractive target, failing to realize its comparative unimportance compared to that of their original objective. We may one day have a very rude awakening if we take the very limited results obtained either by ourselves or by the Germans as a criterion of what will happen in the next war. Even with these disadvantages a considerable amount of material effect was obtained by means of bombs.

There are also various secondary effects of bombing, such as the holding up of railway traffic, and the reduction in output of munitions owing to works closing down during the bomb raid or on a warning of a bomb raid.

Then another point often overlooked is the amount of man-power and material that is absorbed in the endeavours to obtain protection from aircraft. I refer not only to active defensive measures such as anti-aircraft guns and aeroplanes withdrawn with their personnel from the area of land battles, but also to the many shelters of an elaborate nature which the Germans constructed, more particularly in Belgium. One of the best known is the submarine shelter at Bruges. The whole work consists of eight shelters, each of which measures 26 ft. wide and 220 ft. long. The whole thing was built of ferro-concrete and it was entirely roofed over, the thickness of the roof being 4 ft. 3 ins. The total height, from the bottom of the foundations to the top of the roof, was 65 ft. 6 ins.

A vast amount of man power, transport facilities and material must have been diverted from the area of ground fighting, to prepare this enormous shelter.

The material effect of bombs is, however, small compared to its moral effect, and I think most people will agree that bombing from aircraft has considerably greater moral effect than ordinary shelling. This of course applies with still greater force to towns and places far behind the line which, at any rate previous to the war, considered themselves immune from attack. It is unnecessary to dilate upon this as many people have experienced the discomfort that was caused in London and elsewhere when an aircraft attack was in progress, or even expected. It also had a considerable effect upon our output of munitions, owing to the necessity for works having to close down by night.

I also happened to be in Paris once when the long gun was shelling the town. I talked to two civilians on the subject and they neither paid any attention to the shelling, in fact, one of them had not realised that shells were dropping not very far off where he was. What did interest them was the weather, and if they were likely to have aircraft over them that night.

As showing the moral effect of bombing on the Germans, the following extracts from captured letters may be of interest.

The first is written from Mannheim, on August 22nd, 1918 :—

" My eyes won't keep open while I am writing. In the night twice into the cellar and again this morning. One feels as if one were no longer a human being. One air raid after another. In my opinion, it is no longer war, but murder. One is daily, nay hourly, prepared for the worst."

The second, written from Stuttgart, on August 4th, 1918, just after an air raid :—

" The fifth year of the war has commenced, and indeed commenced in such a way that one thought that Hell had opened in the night. One cannot help thinking that God must have completely withdrawn his protecting hand."

This was a wonderful admission for a German to make.

The following extracts from captured German letters show the moral effect of our bombing :—

The first is dated Mannheim, 10th January, 1918 :—

" It is very sad to see what is going on at Mannheim. Just think, aviators come here every day and the damage they have already caused is terrible. Every day 100 or more are announced. One can no longer sleep through fear. To have nothing to eat and live in constant anxiety is terrible."

Another is dated Offenberg, 30th January, 1918 :—

" Last week, just as I was going to bed, the siren began to bark, and in a short time bombs began to fall. The anti-aircraft guns then opened fire. I don't know to which further Saint I ought to pray."

The interesting part about this letter is that on the date it was written, no bombs had been dropped on Offenberg at all, either by us or by the French.

The next, dated Griesheim, 27th November, 1917 :—

" We had a terrible explosion at the chemical factory on the night of 20th November. The whole population had to leave. Anna said to me, ' Get up, I have just heard the siren.' Suddenly, I saw the whole sky as if on fire. I cried out, ' God in Heaven have mercy upon us.' Hardly had I said these words when there was a loud explosion and every single window was broken. I ran as far as Frankfort and returned the next day."

In view of the fact that the distance from Griesheim to Frankfort is over 20 miles, you will agree that the moral driving force that induced such a physical effort must indeed have been considerable.

The next is a letter from Treves, dated 21st February, 1918:—

"We were labouring under the delusion that our system of defence would stop them coming any more, but they proved the contrary. These pirates fly very low, almost brushing the roofs of the houses, and they even fire on us with machine guns. If this goes on the cellars will be no longer safe."

The biggest bomb we used during the war was the 1,650 lb. bomb, although there were actually bigger ones in existence. The smallest one was a 6½ oz. bomb known as the Baby Incendiary Bomb. I should like to say a little about this bomb. They can be dropped in very large numbers, owing to the light weight, and are filled with an incendiary mixture on which water has certainly no effect. With their large number they can be scattered over a very wide area, and thus there is every chance of, at any rate, one of them falling on some inflammable material that will start an extensive fire.

Unfortunately they were very little used during the war.

There is one point to be remembered with regard to bombing, in connection with what I will term small wars, using that term in the more or less technical sense, as used by General Caldwell. In order to get really accurate bombing it is necessary to fly in a straight line for a certain length of time. This means that the machine offers a favourable target to anti-aircraft guns, combined with the possible presence of hostile aircraft, this has an adverse effect upon the bomb dropped and does not facilitate taking accurate aim. Under present conditions at any rate, there will always be considerable difficulties in accurate bombing in a big war, but this is not the case in small wars. The enemy will not have aeroplanes, and it is very doubtful if they will have anti-aircraft guns, and if they had, would probably be unable to use them with any effect. Aeroplanes will thus come much lower than in European warfare, and will have the opportunity of taking really accurate aim. Therefore, the effect of bombing will be nearly as accurate as that obtained on the practice ground. Quite apart, therefore, from the moral effect, the material effect of bombing in small wars may, I think, be expected to be much greater than in the case of big wars.

*Indiscriminate bombing* is of little value, and whatever the nature of the war may be, it is essential that definite bombing objectives be selected in accordance with the political, strategical, or tactical situation. As much care must be devoted to the selection of these objectives as in the case of an army or a fleet.

As showing what can be done when aircraft have undisputed command of the air, I would like to remind you of the battle in Palestine, in September, 1918, as a result of which the Turkish army ceased to exist.

I have no time to refer to the fact of our British machines flying close over all the hostile aerodromes and effectively preventing a single

one of their machines leaving the ground, thereby enabling the movements round the Turkish right flank to be concealed; nor to the use that was made of smoke screens by aircraft during the progress of the infantry attack, nor to the effect of our aeroplanes in preventing the Turks swinging back their right flank.

I rather wish to emphasize the tremendous moral and material effect that can be caused by aircraft during a retreat, if such has to take place by day and if the winning side has complete command of the air, as was the case on this occasion.

At the commencement of the battle, machines fitted with long range wireless were sent out well behind the Turkish lines, to give the first intimation of retreat. As soon as this retreat had begun, over 50 bombing machines were let loose, at short intervals, and steadily bombed the heads of the retreating columns. After a short time, the roads were completely blocked, no traffic could pass, and our machines then turned their attention to the main retreating bodies.

The result was utter demoralisation. I have no time to go into details, but the effect is stated in more than one letter I have seen, to be beyond description. All control by officers over their men was lost, guns and vehicles were abandoned, arms thrown away, and lorries in many cases were deserted by their drivers whilst still under way.

I remember reading some time before the war, I think in *Punch*, a skit about an examination for tactical fitness, when the Board gave the following problem to the unfortunate major:—

“ You have infantry and guns in rear, cavalry on the right, a morass on the left and aeroplanes over. Describe your next step, giving reasons ? ”

Some six years later, that was transplanted into grim reality, with the further complication that the Turkish army had cavalry in front of them as well. I do not recall what the major's answer was, but in the case of the Senior German Officer in the Turkish army (Von Sanders) took his next step, without waiting to give any reasons, it was a very rapid one, by himself, in pyjamas and a motor car.

It may also be noted that during the various small wars that we have carried on in the last few years, considerable use has been made of aeroplanes for communication purposes and also for dropping propaganda.

Another portion of aircraft armament that I will touch on shortly is torpedo armament. This, again, was unfortunately never made use of during the war, but I think it has great possibilities. At present, we can only carry a comparatively light torpedo, but the subject is capable of considerable development. There are certain special difficulties with regard to dropping torpedoes from aircraft. First, the forward speed at which the torpedo strikes the water, and which is considerably greater than that of the torpedo when using its own power, then the necessity for keeping the machine exactly level at the moment of dropping, quite apart from the question of aiming; thirdly, the necessity for regulating the height of

the machine above the water so as to ensure first that the torpedo is dropped as close to the water as possible and, secondly, that the machine is not so low as to be damaged by the splash caused by the torpedo striking the water. The normal range at which torpedoes are dropped from aircraft is about 600 yards, and at this range a trained pilot will make a practical certainty of hitting a destroyer.

It has been objected that torpedo aircraft would offer a very easy mark to a ship's guns. This is true to some extent, but means can be taken to reduce this very largely by a smoke screen, this screen being formed by machines that will precede the torpedo carrying machines and drop smoke bombs on the surface of the water from a considerable height.

I suggest that, apart from offensive purposes, torpedo aircraft might be of great value for the protection of our overseas dominions. They are certainly economical, compared to coast defences or even torpedo boats, and combined with aircraft carrying bombs for the attack of warships from above would, I think, prove a very effective means of defence.

It is commonly supposed that an aeroplane must have either an aerodrome or water on which to alight, but this is not the case. Landings and ascents have been made successfully off the decks of ships. In some ways a ship is rather an ideal aerodrome, it can steam along under its own power, head to wind and the speed of a modern cruiser, even in a calm, is far off the minimum flying speed of some aeroplanes. This means that an aeroplane has only got to start up its engine and it will be able to take off from the deck of such a ship with little or no run at all. This is all right as regards taking off, the difficulty, however, arises when a machine tries to alight on the ship. Owing to the obstruction caused by the funnels, the bridge and other encumbrances very peculiar air currents are caused towards the stern. It is not a practical proposition to alight in front of the funnels, although this has actually been done; alighting on the after portion of ordinary warships has often been done, and one picture shows a machine in the act. Owing to the peculiar air currents, the work is, however, somewhat hazardous. The obvious remedy for this is to do away with all top hamper altogether and leave a smooth deck for the aeroplanes. This has actually been done in the case of one ship, namely, "The Argus." There is a clear run of 550 ft. long by 68 ft. wide, and it can house about 24 machines down below. Any ordinary aeroplane should experience but little difficulty in alighting on or getting off such a vessel.

Now, I think this opens up enormous possibilities for dealing with many of the small wars, in which this Empire indulges so frequently, provided the objective is within, say, 200 miles of the sea or a navigable river. What generally happens is that some tribe carries off the women and cattle of some tribe under our protection, or that a missionary party is killed and eaten. After due preliminaries and failure to obtain any apology, an expensive expedition is fitted out, and after a lapse of some 18 months or so it either gains or fails to gain its objective. Even in the former case, the tribe that committed the enormity has probably forgotten

all about it by the time the expedition gets there. Now, supposing we had distributed in strategic points about the world a few of these aeroplane carriers, each fitted up with about 20 machines and an adequate supply of bombs, petrol and spares. Within a few hours, or at any rate a few days, of a missionary being eaten the aircraft carrier could have reached some convenient point near the coast or up a river, no harbour wanted, no railways, no supplies of any sort, all is entirely self-contained. The next morning off go the 20 aeroplanes loaded with bombs, and before our cannibal tribe has recovered from the effects of indigestion, caused by over indulgence in missionary, they find thousands of baby incendiary or other types of bombs raining on their heads.

It seems to me a very rapid means of settling the dispute and economical in men, and also in what appears to be more important at the present moment—money.

Then, another little point, it is often very hard to decide on the objective in small wars. There may be no king to conquer, no capital to occupy, no organized army to overthrow; but as General Caldwell says in his book on small wars, if the enemy cannot be touched in his pride or his honour, he can be touched through his pocket. Here, it seems to me, aeroplanes have an enormous advantage. When a tribe hears of a land expedition, elaborately organized and entering their country by slow and painful stages, they can collect their cattle, their flocks, their horses, and take them off to some quiet inaccessible spot, and keep them there until our expedition is forced to retire. But with aeroplanes there is no such thing as an inaccessible spot, there is no place to which he can remove his source of wealth, which cannot be reached.

Owing to the necessity for land machines, i.e., those not specially fitted with floats to fly for considerable distances over the sea, it was found desirable to design some means of keeping them afloat if for any reason they had to alight on the sea. A large number of experiments were carried out at the Isle of Grain, and as a result a very satisfactory form of flotation gear was devised. It consists essentially of collapsible bags which are normally carried rolled up close under the lower plane. When it was necessary to land on the sea, these bags were inflated by means of a cylinder of compressed air carried on the machine.

Certain other additions are also necessary, e.g., to prevent a machine turning on its nose when it alights in the water. This device is, in fact, a very good instance of what I referred to previously, namely, a very simple and efficient piece of apparatus, only arrived at after systematic experiment and a large number of failures.

I have nearly finished, and am now going to indulge in a few more figures, merely giving some results which were achieved during the war in France.

The best day we ever had, as regards bringing down enemy aircraft, was on the 30th October, 1918, or to be strictly accurate, 4 p.m. the 29th to 4 p.m. the 30th. On that day we did in 70 enemy machines.

and they were all properly crashed, not merely driven down out of control. Our casualties that day were 17 aeroplanes missing.

With regard to bombing, our best day's work was in April, 1918, 4 p.m. 11th to 4 p.m. 12th, when we dropped 43½ tons.

As regards photographs, our best day's work was May 3rd, 1918, when 4,090 new photographs were taken.

It may interest you to know that the total number of prints of aircraft photographs issued in France during 1918, up to the Armistice, was over 6,000,000, the great majority of these being produced by the Air Force themselves. In that connection it might be interesting to note the consumption of a certain chemical, known as hypo-sulphite of soda. Ordinarily one buys it by the ounce. Our total consumption during the war amounted to 120 tons.

I am not quite certain as to the best day for the number of hours flown, but I know that on the 12th April over 3,100 hours total flying was put in, which, when converted to miles, means a great deal more than sufficient to go from here to the moon.

Finally, I should just like to read you two extracts showing how some of these German machines were brought down. The first is from an ordinary routine report, written by the late Major McCudden. He was one of four brothers, all of whom were in the Flying Corps, and of whom three were killed during the war. He started as a mechanic in my old squadron No. 3, and ended up as a Squadron Commander with nearly every medal for bravery that it was possible to get. The report describes his movements on February 16th, 1918.

"I left the aerodrome at 9.40 and crossed the lines at 10.25, at a height of 16,000 feet. Saw many enemy scouts about, mostly above us, but they withdrew North and East. At 10.35, saw a Rumpler getting height over Caudry, secured a good position and fired a long burst with both guns, after which the Rumpler went down in a vertical dive and then all four wings fell off. 10.45 saw a D.F.W. at about 15,000 feet. I secured a firing position at about 100 yards range, and after firing a long burst with both guns the enemy machine went down in flames, shortly afterwards falling to pieces. Next, I engaged an L.V.G. which went down damaged with water coming out of the radiator. 11.5, prepared to return to my aerodrome as one of my elevators was out of action and my gun sight and wind screen were covered with ice, due to a leaking radiator. On re-crossing the lines at 11.0 a.m., found a Rumpler and engaged it at 15,500 feet, after firing a long burst with both guns, the machine went down fairly steeply, emitting smoke.

"I then got another machine and left the aerodrome again at 11.45. At 12.30 found a Rumpler at 15,500 feet, just re-crossing the lines, I got into position and fired a short burst with both guns, after which the enemy machine went down vertically falling to pieces. 1.20 returned to the aerodrome."

That was not a bad morning's work, and I might draw your attention to the future fate of the machine that was reported by McCudden as going down fairly steeply, emitting smoke. This machine actually

crashed in our lines and burst into flames on reaching the ground. If that happened to a machine that he only described as emitting smoke, I think it may be gathered that he was not given to exaggeration.

The second and last extract is called "Major Bishop's last day."

Major Bishop is another of our pilots who got the V.C. and numerous other decorations, and he was ordered to return to England on the 19th June, 1918, in order to take on training work. He was determined to have a good day for his last one in France. Unfortunately, the morning was very bad as it was raining hard, but to go on to the description.

"At 9.45 a.m. Major Bishop left the aerodrome, when the rain had ceased for a time. He met five Pfalz Scouts and a two-seater east of Ploegstraate at 9.58. He shot down two of the scouts both of which crashed, and then chased two others which collided and broke up. He then attacked the two-seater and shot it down in flames. The fifth scout escaped. Major Bishop then returned to the aerodrome and at 12 noon left for England."

#### DISCUSSION.

SIR RICHARD GLAZEBROOK, C.B., F.R.S.: I am afraid I did not come in the least prepared to make any remarks on this interesting lecture, and I think all I can effectively do is to re-echo very warmly and very cordially the appeal that Air Commodore Brooke-Popham has put forward for further and increased scientific work in the future. He has given us a very clear and most interesting account of much of the work that went on at the front and elsewhere during the war, and has made it quite obvious that, without the scientific investigations which led to the construction of the accurate instruments that he has described—the compass, the sextant, the speed recorder, the turn indicator, the gyroscope, and the rest of them—many of the feats that we have heard of from him and that we have learned with so much admiration and so high a regard would have been quite impossible. Two nights ago I had the honour of speaking at a meeting of the Royal Society upon the subject of the scientific work that had been done during the war. I pointed out the importance of that work and drew the same conclusions from it that I should like to draw here to-day, viz., that if in the future we are to progress in the reconstruction work that undoubtedly lies before us, it will be necessary to have recourse to the scientific investigations that have been proved to be requisite during the war. That is all the more necessary with regard to the subject that Air Commodore Brooke-Popham has brought before us this afternoon, because nobody can doubt that aeronautics is a young subject. We have got but a little way into many of the mysteries and difficulties that surround it. One realizes that in the future it possesses great hopes and possibilities, and that in order to succeed in bringing those hopes and possibilities to fruition, it is necessary that all should combine. It is necessary that we should have the skill and technical experience of the instructor; it is necessary that we should have the actual flying man himself with his nerve, vigour, boldness, and daring; but it is also necessary that behind them should be the results of the investigations of science into these difficult problems; and it is only by combining in this way that we can really hope that in the future we in England will maintain that superiority in the air which it is an undoubted fact we were able to gain during the war. Perhaps I may be allowed to say that I read this morning a number of German technical reports issued during the war. I have not had the opportunity of going into them very fully or completely, but there is a good deal

of interesting information in the reports that I have been able to read. In these scientific and technical reports, however, there is very little indeed that was not already well known to us in England as the result of investigations carried on at the aircraft factory, at the National Physical Laboratory, and in the field and elsewhere at a considerably earlier date than appears in these German publications; and in many respects the knowledge and results contained in these publications are very much behind our own. In one case in particular, after quoting the result of German experiments on a certain class of aeroplane, the results are quoted of English experiments on a similar class of aeroplane, and the discussion is closed with the remark: "It would thus appear that these enemy aeroplanes are at least as good as anything we have yet arrived at." I think I have said enough to show that I attach very great importance indeed to scientific inquiry and research. I feel that they have been of very great use to us during the war; I am sure they can be of great use to us in the future, and I earnestly plead that the Government and that those specially responsible for financial matters should be brought in some way to realize the necessity of the fullest support and heartiest sympathy with the efforts which I know Air Commodore Brooke-Popham is going to make to carry on the Research Department of the Air Ministry in a manner worthy of the country.

COLONEL ST. G. STONE, R.A.: Mr. Chairman, Ladies and Gentlemen. I did not expect to be called upon to make any remarks; I came entirely to listen. There is, however, one technical point upon which I personally should be very glad to receive further enlightenment, if it is not a secret, and no doubt many others here would also like to hear more about it, viz., how far we have actually got in practice in perfecting an instrument to enable a pilot to judge whether he is ascending or descending in a vertical plane in a fog?

MR. GORDON DOBSON: Mr. Chairman and Gentlemen. I am sure we have all been extraordinarily interested in Air Commodore Brooke-Popham's lecture, which, considering the intricate nature of some of the problems he has discussed, has been wonderfully clear. All those who are interested in the development of scientific research work can very fully support Sir Richard Glazebrook's appeal for a further extension of research work. Unfortunately, as Air Commodore Brooke-Popham has pointed out, that work is extremely expensive in many ways, and the present is not a time at which one can hope to obtain very much money for the purpose. The statement the lecturer has made is absolutely right, that, when one wants the cash five years ahead it is essential that one should start the work at once, as nearly all these things take a very long time to do. For instance, even in the production of one of the simplest instruments, it is very seldom indeed that from the start of the work on the instrument to producing it in very large quantities it can be done under something of the order of two years. That seems a long time, but as a matter of fact that is the sort of time it takes in which to work these things out. With regard to the question asked by the previous speaker, one can use an aneroid for showing you the height above the ground, and the aneroid will also show you by the movement of the needle whether you are rising or falling. There is also an instrument called the rate-of-climb indicator which shows you the actual rate at which you are rising or falling at a particular time,

SQUADRON-COMMANDER HILL: Mr. Chairman and Gentlemen. I am afraid there is very little I can add to what has already been said in appreciation of the lecture and of the necessity for the support of scientific research in connection

with aeronautics. It is necessary for the pilot to act and work sympathetically with those with whom he is brought in contact. We are probably not fortunate enough to have many pilots who have deep scientific knowledge and training, so that the best they can do is to try and work in perfect sympathy with all the various branches of research and scientific knowledge to which they can be useful, and in that way new devices and designs will be evolved. Sometimes the designer himself flies; that is the best condition of affairs in which to get results, and the testing of new instruments, to which Major Dobson referred, has to be done by a man who can really appreciate those instruments, and who at the same time can fly.

WING-COMMANDER CHRISTIE: Mr. Chairman and Gentlemen. I do not wish to speak on the question of navigation because it is the one subject about which I know nothing, although I am connected with the Navigation School; but I would like to ask one question of the lecturer, viz., what are the prospects of obtaining in the future silent engines? It appears to me that in a future European war the nation which can produce 3,000 bombing aeroplanes, flying at night with silent engines, would put up a very difficult problem for us to solve.

COLONEL H. E. WIMPERIS: Mr. Chairman and Gentlemen. Like everyone else present I have listened with the very greatest interest to the lecture which Air Commodore Brooke-Popham has given us. In it I can see only one grave omission, viz., that one cannot gather from the lecture in the least the extraordinarily important part which Air Commodore Brooke-Popham's own work in France played in leading up to the high efficiency of the Air Force of the country. There must be members of the Air Force present this afternoon who have first-hand intimate knowledge of that work, and I am sure that I shall receive their sympathy in the remark I have made. Sir Richard Glazebrook has referred to certain German publications, which are apparently part of our indemnity. He also referred to the amount of information that we might obtain from these publications and from what the Germans have done in general. During the war a good many of the enemy's devices were captured or were obtained when their machines crashed. They were sent over to this country and quite a fair proportion of them came to me for examination. It was very interesting to study exactly the way in which they had been built, the principles on which they had been designed, and the state of knowledge which they represented. I do not say it applied to all of them, but I can honestly say that in all those I saw I did not find any information which was not at that moment in our possession. I do not say that the Germans did not invent just as freely as we did, but I do say that they had a time lag, and that we were the leading phase. There is one other point I should like to refer to. In a lecture like this every phase of Air Force work cannot be mentioned, and one or two points are sure to crop up in the discussion which will extend the scope of the lecture. One of the phases of that work which I feel bound to mention is the work done by the flying boats of the Anti-Submarine Patrol. It was very hazardous work; these men flying in misty weather, hundreds of miles away from the land, represented the earliest form of attack on the navigational difficulties; and although they did not meet with some of the difficulties that the land operating machines had to overcome—for instance, there was very little anti-aircraft fire—nevertheless there was that natural fear of losing their way and not being able to get back. None the less, in spite of all those difficulties they did most marvellous work, and the success which they met with in their attacks on submarines is very little known.

CAPTAIN J. MORRIS: Mr. Chairman and Gentlemen. I have listened with very great interest to Air Commodore Brooke-Popham's lecture, and one or two

points have struck me as being of particular importance. In the first place I should like to mention the complete loss of sense, so to speak, when you get off the earth. I am not talking so much from the actual flying point of view but from the point of view of how somebody whom you are going to try to teach to fly conceives the condition. I often felt that when dealing with cadets who used to come to us for training in the Air Force. That raises the other point which I wish to refer to, viz., that, as Air Commodore Brooke-Popham mentioned, bombing was not particularly effective, generally speaking, because a large number of the people concerned had not the right military training. That brings up a very important point which is probably much deeper than the lecturer may have contemplated at the time, viz., who the average pilot was to begin with that we had to train during the war, and how he was trained? At the beginning of the war, or in pre-war days, the average pilot was generally an officer—a naval or military officer with high educational attainments. He was usually a good technical man and mostly he had a flying certificate; he was a pilot before he actually joined the Royal Flying Corps. Compare that type of individual with the type of individual that we had towards the end of the war, when we wanted pilots by the thousand. The type of man who was originally a pilot before the war was practically non-existent then, so that we were then faced with this problem. We had, so to speak, an enormous number of people educated in a very average manner and had to train them in order to carry out these high technical duties which have been referred to in the course of the lecture. We had to train them for the highly technical work involved on the part of the pilot and observer and we had to train them very rapidly and quickly. During the course of the examination of these cadets one got rather remarkable answers which bear out the point I was making with regard to the curious features which happen when you get off the earth, particularly in problems intimately connected with aeroplane motion. For instance, if you set such a question as: "How would you get the strength and direction of the wind?" a common answer would be: "You would simply stick out your handkerchief or hold out your hand." If you set such a question as "Supposing you got lost over the enemy's lines and your compass was shot away or out of action, what would you do to get back?" you would get very curious answers to the question. For instance, on one or two occasions we had an answer of this sort: "I would land; then I would wait for somebody to approach; then I would address him in English; if he addressed me in German I would turn round and fly away as quickly as possible." Answers of that description were not uncommon, not because the intelligence of the individual was low, but merely because the various problems that have to be dealt with before one can even get into an aeroplane are so intricate and difficult to understand when one is limited to the earth that it is almost impossible to pay a sufficiently high tribute to the people who were engaged in training. The results that were produced were perfectly amazing, and I think the present is a good opportunity of paying a very high tribute to the people who were engaged in training in any shape or form during the war, but particularly the flying instructor.

COLONEL B. C. GREEN: Mr. Chairman and Gentlemen. May I make one or two remarks from the point of view of the poor creature on the ground—the infantry officer? We have heard a great deal this afternoon of the moral effect of our aeroplanes on the enemy, but I do not think we have heard quite enough about the moral effect of our aeroplanes on our own infantry. I happened to be at the front in the early days of October, 1914; I was through the First Battle of Ypres, and I can realize what it was to have all enemy aeroplanes over your head and no British. During the course of years that state of things was changed; and what I want to emphasize is the extraordinary moral effect on the infantry

of seeing his own machines over his head. It does not matter whether it is in the trenches or whether it is in the advance over the top, to see your own machines in preponderance over those of the enemy is the greatest incentive that you can possibly have to the troops which are attacking. There is one rather scientific point I should like to ask the lecturer. One has heard a good deal about the condition of vertigo in airmen. I do not know whether I am correct, but I have been told that a good many crashes, not only of our own flying men but of those of the enemy, were the result of that condition of things which is called vertigo. I believe vertigo affects the middle ear, and is very allied to a disease called Meniere's disease, which is well known to medical science. I would like to know whether the oxygen apparatus for great altitudes, whether in the liquid form or the gaseous form, has obviated that condition which may or may not have caused a great many crashes among the pilots of aircraft? I would also like to say from the infantry standpoint how much I have appreciated and enjoyed this lecture. It has told me a great deal I did not know before. The other speakers have touched on other points connected with the lecture more from the flying officer's point of view, and I as an infantryman wish to thank the lecturer most sincerely for his splendid lecture this afternoon and for the extraordinarily clear way in which he has put before us a lot of technical details of which I for one knew nothing before.

MR. H. B. JONES: Mr. Chairman and Gentlemen. The last speaker has raised a very important point by referring to the fact that our own aeroplanes flying over the infantry do a lot for the *morale* of the infantry in an attack. During the early days of the war that idea led to a defensive policy being adopted by the Flying Corps. The idea that your machines were there to protect the machines that were observing for the artillery and so forth and also to prevent enemy machines flying over our infantry led to the higher command of the Flying Corps rather veering over to the defensive policy. When the Germans opened the Battle of Verdun and the French opposed it, the French started first of all with a very few machines on the spot; but they made a concentration of aeroplanes and a very vigorous and relentless offensive was adopted. At that time the machines had not done much work in the way of formation flying, but the machines which were fitted with machine-guns were sent well behind the German lines, with the result that in the course of a few days the Germans were more or less driven out of the air and the French observation machines were allowed to carry on their work absolutely unmolested. The defensive there was an offensive really. After about a week or two at Verdun, when the Germans had been driven from the air, the French then adopted the defensive policy. The fighting machines were split up and sent round to the various corps squadrons to protect the observation machines of the French corps squadrons. The result was that in a very short space of time the Germans adopted the offensive and the French had a good deal of trouble, their air work for artillery observation being greatly impeded. They then readopted the offensive policy, and since then neither the French nor we ourselves have turned back from it. We put it into effect first of all at the Battle of the Somme, and we have realized that in the air as on the ground the only real defensive is a vigorous offensive.

THE CHAIRMAN: Ladies and Gentlemen. As nobody else wishes to speak it is the duty of the Chairman to sum up to a certain extent the discussion and to thank the lecturer for his paper. I will do this to the best of my ability, but the subject is so vast that it will be impossible for me to deal with more than a few points in a very general manner. I wish in the first place to refer to the two letters which Air Commodore Brooke-Popham read to us concerning the work

of those splendid fliers, Major McCudden and Major Bishop. It seems to me that their work was typical of the ordinary work and devotion of the Royal Flying Corps in France, and that it is work which will never be forgotten. I think the best way in which we can perpetuate the memory of those fine fellows who lost their lives in the Flying Corps is to endeavour to maintain the supremacy which they acquired, and one of the means of doing that is through this Institution. This Institution commenced some years before the war to take a great interest in the Flying Services, and a series of lectures was given emphasizing the importance of this new work and drawing the attention of the Government to the necessity of providing adequate funds for equipping it. I have been myself for some years associated with the Royal Aeronautical Society, and I should like to make one suggestion to the Council of this Institution. It is this. We have many objects in common. The science and the practice of aviation overlap to a considerable extent. It is now the custom to a certain extent of various institutions and societies where they overlap to have joint lectures, and I suggest, for the consideration of the Council, that it might be advisable occasionally to have joint lectures with the Royal Aeronautical Society, and then we should be able to cover the ground rather better. As I have said, the subject to-day is so vast that I can offer only a few general remarks on it. I think the last lecture that was delivered here on this subject was in 1913, when Colonel Fullerton gave us a most excellent description of the recent progress which had been made in aeronautics. I then had the honour of taking the Chair, and those who were not here and who take an interest in the past history of aviation will, I think, find it worth while to read the paper and the discussion which followed on it. I did that the other day, and the principal thing that struck me was that the advocates and prophets of the Air Service in those days were too moderate in their views—results have far exceeded their expectations. General Stone, I think, was one of those who discussed the matter here then. The technical and scientific work done in those days is to a certain extent now out of date, the development having been so enormous during the war. As the lecturer has described, the development of the efficiency, speed, endurance, safety, equipment, and armament of aeroplanes has been very wonderful indeed. In time of peace I suppose it would probably have taken us thirty or forty years to effect the same advance that has been made in the last five years, and I think the same remark may be made as regards airships. But there is still, as the lecturer has said, one decided want, and that is some way of hovering in order to effect a safe landing. We occasionally hear rumours of this being accomplished in one or two ways, and the helicopter comes up again and again. I understand that is still being investigated, and I sincerely wish it every success. But even if it were perfectly successful I have my doubts whether it would supersede all forms of aeroplane because I think it must mean reduction of speed. There is a possibility also of something being done in the direction of the flapping machine or the machine with a bird type of mechanism. I happen to have had some acquaintance with this subject latterly because I have been Chairman of the Air Inventions Committee before which most of these subjects came. That brings me to another point to which I wish to refer. I would like to express my admiration of the scientific and technical work which has been done during the war by many young scientific men, a great number of whom have come from the Universities—such work as dealing with the stability question, the aerodynamical question, wireless telegraphy, and telephony, meteorology, navigation, armament and equipment, not to mention what the lecturer referred to in the way of oxygen apparatus and the warming of aeroplanes. Sir Richard Glazebrook referred to this subject, and I am very much in accord with him that we must endeavour by all means possible to retain the knowledge and experience that

these young men obtained during the war. I hope some machinery may be devised by means of which the selection will be made of the most capable men in order that they may serve on committees which will advise the different Ministries. We have had for some years past, in fact before the war, Advisory Committees, and they have done very fine work, but I cannot help feeling some alarm sometimes as to whether they will be given enough power. Personally I have had a very long experience on the scientific side of the War Office, and I am sure we have all suffered very much indeed from the absence of really first-class outside scientific opinion. I hope that this will not be forgotten now; I hope that adequate machinery will be set up, and that the scientists and the Advisory Committees will have sufficient power given to them so that they can carry out their duties effectively. I feel very strongly about the matter.

Turning to the use and the value of aircraft in naval and military operations, we all know that only a little more than a year back the operations in Palestine were finished off by General Allenby very largely through the power of his aircraft. This has been described very graphically by our lecturer. This made the enemy totter in the East and on the Western Front; the enemy was demoralized by the same means to a large extent; and Berlin was threatened with the heaviest bombardment that has ever been contemplated just before the Armistice. I think this shows—and the remarks that have been made this afternoon emphasize it—that the possibility of hurling huge masses of high explosives on the vital points of the enemy from some distance at the shortest possible notice, has introduced a method of warfare which will be conclusive unless met by similar means and also by some special means of providing safety. Judging by what one reads in the papers, some people are so impressed with this power of self-destruction that they think there is no help for it as regards military means; that some measures must be taken really to alter human nature, and that that may make for universal peace if possible. No doubt we shall do everything we possibly can in this direction, but I do not think the words that have come down to us through the ages, "When a strong man armed keepeth his house, his goods are in peace," have yet ceased to be operative. Hence I think it is of the very greatest possible consequence that we should in every way develop this extraordinarily powerful new weapon, and by that means secure peace. It is a very vast subject, and the necessary information for discussion is not at the present moment available. I hope it will be before long, and then I hope this Institution will start on a series of discussions of this nature. I am sure nothing could be better and more advantageous to the country and also for each of the individual Services. To give an instance of a series of lectures, you might first of all have a discussion on the work and duties of the Independent Air Force; the duties of aircraft in connection with naval forces, and the combined work of aircraft with the infantry, cavalry, artillery and coast defences; and the duties of aircraft in the defence of cities, towns, and arsenals. That would be a fine series of lectures to embark upon. There is one other remark I should like to make, and it is derived from somewhat special experience with the Admiralty and War Office for a long number of years. I was Secretary of the Naval and Military Defence Committee at a certain time before the General Staff was established, and latterly I have had some experience of the Air Ministry, so that perhaps I may be permitted to express an opinion. I cannot help thinking that it is impossible that we should go back upon our present system of an Independent Air Ministry. To my mind it is beyond belief that we should do so. Another interesting thing is that I see the old proposition for establishing a Defence Ministry has cropped up again. Some thirty years ago we used to discuss that pretty frequently, and there were those at that time who thought it would be an ideal plan to place both the

Admiralty and the War Office under one Ministry; but owing to the traditions, the customs, the practices, and the prejudices of the two Services, it was thought impossible to carry it into effect. The advent of the Air Ministry has seemed to strengthen that argument to a certain extent, but the duties would be still more colossal for this Ministry, and I suggest to you that the difficulties of co-ordination have been met by new machinery. First of all we have got General Staffs for each of the Ministries—the Admiralty, the War Office, and the Air Ministry. Secondly, the Imperial Defence Committee has been established; thirdly, a War Cabinet has been appointed, and I think that arrangement should provide for the necessary co-ordination if it is effectively developed. I cannot see the necessity for introducing a Minister for Defence charged with the colossal work of the general supervision of the three Services. But, whatever organization is adopted, its efficient working will depend to a very large extent on the harmonious co-operation of the representatives of those Services and of the actual officers belonging to them. It is here, I think, that we in this Institution can be so extremely valuable. If I am right this Institution was instituted very largely to bring the Services together; also for the purpose of acting as a kind of half-way house between the authorities and the public. It is evident, I think, to everybody now that, unless the public has a considerable amount of knowledge about what is proposed to be done as regards the Navy, the Army, and the Air Ministry, no one can carry it out unless the public more or less approves; and the public cannot be expected to express much of an opinion without more knowledge than they get through the usual official channels. But here is an Institution of this kind, where you have discussions which used to be, and probably will be in the future, attended by the authorities, such as Air Commodore Brooke-Popham, by the officers of the different services and also by members of the general public, I do not think you could possibly have a better method of acquainting the public with what it is proposed to do. Therefore I hope that this series of lectures which I have suggested will be carried out by the Council of this Institution.

I have now to ask Air Commodore Brooke-Popham to reply to the discussion that has taken place, and, as I do not wish to give him the trouble of making two speeches, I offer him on your behalf a most hearty vote of thanks for his lecture which has been described by the different speakers in a most laudatory manner.

AIR COMMODORE H. R. BROOKE-POPHAM, in reply said: General Ruck, Ladies and Gentlemen. First of all I thank you very much for the kind remarks you have made about the lecture. I should rather like to pass on those thanks to the various officers of my department who have collected all the information which I have put together in a somewhat illogical and wholly inadequate fashion. Wing-Commander Christie asked what are the prospects of a silent engine being evolved in the future. There is no doubt that as regards the exhaust of an engine it can be silenced, but that will not make a silent aeroplane. The noises made by an aeroplane are very complicated indeed. There is the noise of the propeller; there is the sort of singing noise that goes on in the wires; there is the transmission of vibration set up by the engine through the various portions of the structure, and so on. An actual silent exhaust makes no difference to the distance from which an aeroplane can be heard, and I cannot see a silent aeroplane being constructed—at any rate for a considerable period. We can silence the engine as regards the occupants of the machine, and that makes a good deal of difference to their comfort. Colonel Wimperis mentioned the submarine patrols, which I am very thankful to him for doing, because it was perhaps the most serious omission from the paper. There were very many things I had to omit—airships, kite balloons, and dozens of things. The only reason I omitted the submarine

patrol was because I could not get a nice lantern slide showing what they had done. Then the medical question was asked with regard to vertigo, and whether the oxygen apparatus would avoid that trouble. I am not a doctor, and therefore cannot speak with authority, but I think one can say that the oxygen apparatus will prevent that effect coming on unless the pilot is particularly subject to it. It means that one has to have a very strict medical examination of pilots to ensure that they are not particularly liable to this defect; and if they pass that examination the oxygen apparatus will assist them to overcome any attacks of it. Those who have to pass the medical examination have to undergo all sorts of horrible things. They are put on a spinning table and that sort of thing; it is a very drastic method of examination indeed. The last speaker in the discussion, Mr. H. B. Jones, referred to the question of the offensive and the defensive. I absolutely agree with the last statement, that an offensive attitude is essential for a Flying Corps, but I absolutely disagree with his statement that a defensive attitude was ever contemplated by the Chief of the Air Force. I was General Trenchard's staff officer from the day he took command, and I am able to say absolutely definitely that General Trenchard's one idea was offence, offence, offence the whole time, and nothing else, and if anybody got up and suggested to him that a defensive attitude was necessary to protect the artillery that officer would probably have left for England the next day. It was sometimes forced upon us and sometimes appeared to be forced upon us, but the supposition that it was ever contemplated is absolutely wrong. Mr. Jones mentioned a very interesting thing that occurred at Verdun. The success of the French at Verdun in their offensive attitude was due to one man—du Petit. It was at Verdun that the really big opportunity occurred of putting into action all the talks and discussions that General Trenchard and du Petit had with regard to offensive action in the air. I remember the telegram that du Petit sent to Trenchard after their first seventy-two hours' work, and I should like to pay a tribute to his memory. He was killed at the Chemin des Dames, and he was one of the finest Frenchmen I ever met. He was a French counterpart of Trenchard, and I cannot say any more.

LIEUT.-COLONEL SIR ARTHUR LEETHAM, C.M.G. (Secretary): Ladies and Gentlemen. On behalf of the Council of the Institution I ask you to accord a hearty vote of thanks to the Chairman, General Ruck. When the lecturer suggested to me that General Ruck should occupy the Chair I assured him that the selection gave me the greatest pleasure, because General Ruck was well known to me as one of the pioneers of the Flying Service since its very earliest days. There are very few people to whom the Air Service owes so much for the services he has rendered as General Ruck. I ask you now to accord him a very hearty vote of thanks for presiding over the meeting this afternoon.

The resolution of thanks was carried with acclamation.

THE CHAIRMAN: Ladies and Gentlemen. Thank you very much indeed. I am very much obliged to you for the kind way in which you have received what Sir Arthur Leetham said. I am not going to make another speech, but I should like to tell you that I have been wonderfully interested in the Air Service. It was in 1902 that I first started. There was not much flying then, but I was Director of Fortifications at the time, and the Air Service was under my general supervision; and the thing I am proudest of is that during that time we had the first aeroplane and the first airship.

## POSSIBILITIES OF THE NEXT WAR.

*[The Lecture was prefaced by an acknowledgment of valuable assistance from Major C. F. Atkinson, late E. Surrey Regt.]*

By MAJOR-GENERAL SIR LOUIS C. JACKSON, K.B.E., C.B., C.M.G.

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On Wednesday, December 17th, 1919.

THE RIGHT HONOURABLE VISCOUNT PEEL, G.B.E. (Under Secretary of State for War), in the Chair.

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THE CHAIRMAN: My Lords, Ladies, and Gentlemen. We are met here to-day to listen to, and I hope take part in, a discussion on the possibilities of the next war. This, of course, is a vastly fascinating subject which reaches out into almost illimitable fields of speculation, and when you are dealing with speculation on practical things you are apt to attach credence to the statements of speakers and the readers of papers according to the degree of authority that they already enjoy. We are very fortunate in having so distinguished a man as Major-General Sir Louis Jackson to read us a paper on this subject, because his long record shows how eminently qualified he is to give his views on it. I should just like to remind those who are not well acquainted with his achievements what that record is. He was Chief Instructor at the School of Military Engineering from 1895 to 1902; he was Assistant Director for Coast Defences from 1907 to 1910; subsequently he was employed by Lord Kitchener in 1914 on various inventions in connection with the war, and he was afterwards put in charge of offensive gas production. In 1915 he was transferred to the Ministry of Munitions, and there became Director of Trench Warfare and Supplies. In this capacity, in addition to gas, he produced all kinds of war requisites, such as grenades, bombs and throwers, signals, flame projectors, and the Stokes gun, the details of which he worked out; so that no one I think could address us with fuller knowledge on these subjects than Sir Louis Jackson. I have only one thing more to say, and that is that we must, in order to make the paper and the discussion real and not academic, make two assumptions: the first is that the prophecies of those who say the world is coming to an end this week are untrue; and the second is that, however valuable the League of Nations may be in controlling warfare, in delaying hostilities and in softening down the acerbities between nations, yet I think we can hardly rule out the ultimate resort to force as one of the possibilities of the future.

I will now call on Sir Louis Jackson to read his paper.

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### LECTURE.

THE title of this paper may seem rather ambitious, and indeed to do full justice to it would require an encyclopædia rather than a lecture. But an omnibus title was necessary, in order to be able to touch on a

variety of subjects. My object is really to set controversy going on certain points, and for that object this theatre is the proper place. It is an obvious fact that we are now on the eve of the most extensive modifications of the art of war known to history. I say "on the eve" because great as were the mechanical and scientific advances made in the war, they were only a beginning. They were remarkable in this, that they made themselves felt on strategy and tactics at once, whereas even gunpowder, for many years after its introduction, was more a moral than a material force. What has to be done now is to follow up these advances, to develop the new arms, in the certain knowledge that the nation which does so most successfully will have a great advantage in the next war. That means practically a great expenditure in experiment, in research, and in staff work. There is no nation better fitted than ours for carrying out war on the new lines, if we bend ourselves to the task; but before doing so, we must recognise frankly that the millennium is not yet in sight.

Some weeks ago I mentioned to a distinguished foreign statesman that I was going to give a lecture on "Possibilities of the next war." He said rather sadly, "Ah, my dear General, if you would only talk of the *impossibility* of the next war."

That impossibility was to him a thing to be longed for, not believed in; but a very real danger for us lies in the fact that there are many people in this country now who believe in it, just as they believed six years ago that war with Germany was impossible. These people cry aloud for disarmament, and reduction of naval and military expenses. The temptation to yield to them and to reduce our burden is great; but if we do, and if we stint money for preparations, especially in certain directions, I say to you that we shall presently be exposed to even greater dangers than those from which the magnificent tenacity of our sea and land forces has preserved us in the Great War.

I will not waste the time of such an audience as this by adducing arguments to prove the *possibility* of further wars. If anyone wants arguments let him look round the world to-day; let him consider that even the League of Nations recognises that possibility, and does not attempt to do more than limit preparations and impose a period of reflection; and finally let him remember that, to consider one storm centre alone, Germany has not refrained from telling us through many mouths that she hopes for revenge some day.

Again, suppose the supreme ideal of pacifists to be realised, and that all the civilised nations were agreed to substitute arbitration for fighting, so that we could abandon the arts of war. What would follow? Less than a century of peace, and then a cataclysm, starting from Asia or Africa, and wiping out civilisation and with it ourselves. It has happened before and would again.

No! Let us as a practical people recognise that war is an inevitable accident of human existence; that if it is possible we must be prepared for it; and if prepared at all, *thoroughly* prepared—not for aggressive ends but for self-defence.

It would be a fascinating study to consider the storm-centres of the world, the conflicts of interest that may arise, and the resulting group formations, with their strategical possibilities. But the subject is too delicate for the chaste walls of this Institution, and it is beside my present purpose which, as I have already indicated, is to make some small preliminary contribution to the great discussions that will presently arise on the use of the new weapons of war.

Let us first consider the conditions under which war may begin. They are, broadly speaking, two. First, war with previous notice and preparation. Second, an act of war without notice.

#### WAR WITH PREVIOUS NOTICE.

In the good days of long ago, when chivalry was of the essence of war, if some puissant king had grievance against a mighty duke, he would send heralds and bid him "stuff him and garnish him, for that within forty days he would fetch him out of the strongest castle that he had." There was sense in it as well as chivalry, because no doubt the king wished to prove beyond all question that he was the best man, just as the modern boxing champion would scorn to go into the ring against a half-trained opponent.

That practice was gradually abandoned, until, in our days, the ideal became to snatch as much advantage as possible from secret preparations and sudden declaration of war. Perhaps the framers of the League of Nations, in providing for a delay of nine months, had something of the old idea in their minds. They would remove the necessity for large conscript armies, that could be mobilised at a few days' notice, and they would give time for reflection and mediation; but at the same time they would encourage the survival of the fittest, by giving each of the combatants time to develop their full national strength.

Under these conditions, supposing two combatant nations to be equal in man-power and material resources, they would, subject to certain reservations, start on equal terms at the outbreak of war; that is with their small standing armies and a large percentage of their adult population, fully equipped, on the frontier line.

The two main reservations affecting equality of terms are, that each should have made adequate arrangements for the training of the civilian population to arms; and, which is even more important, that each should have made equally successful provision for utilising commercial factories for the manufacture of munitions.

#### WAR WITHOUT NOTICE.

Under the League of Nations scheme, a nation making sudden war would come under the ban of the other signatories, and would be immediately subject to commercial blockade and boycott. This is not in itself an absolute deterrent, since it is conceivable that a certain grouping of nations might have such resources that they would have

little to fear from the boycott. In that case, they would have much to gain by a sudden attack. But apart from that, an attack might be made which would not necessarily involve the League. Thus, for instance, the Saar Valley, under present arrangements, is not the territory of any nation. If Germany suddenly declared a claim to it and occupied it, simultaneously putting forward a claim to the League of Nations for it to be restored, it does not appear from the text that such action would call for immediate warlike action by the League.

These two different cases of the opening of war have different characteristics which should be considered separately.

There is a third case; that of local disturbance gradually spreading and involving more and more powerful forces on either side, but it does not demand separate consideration here.

After these preliminaries we can proceed to consider some of the *possibilities*, and some of the characteristics of the next war.

One of the most obvious developments affects the case of an act of war without notice; that is the opportunity for sudden swift blows at long range. The main question, however, is the effect on strategy and tactics of the full employment of mechanical and scientific means of war.

Before attempting to give some illustrations of this I will discuss some of these means briefly under the following heads:—

Mechanical Transport.

Chemical Warfare.

Use of Aircraft.

Liaison.

Probable Weapons of the Future.

The Soldier as Handyman.

#### MECHANICAL TRANSPORT.

This heading may include tanks and armoured cars.

The tank proper was a freak. The circumstances which called it into existence were exceptional and are not likely to recur. If they do, they can be dealt with by other means.

The outstanding feature of the experiment, and one of enormous importance, is the employment of mechanical transport *independent of roads*. This, it seems to me, is what is going to influence most deeply the tactics of the future. Imagine the whole of the transport in connection with the fighting line carried by caterpillar tractors and trucks instead of wheeled lorries; light, unarmoured caterpillars with a fair rate of speed, say six miles an hour, and capable of crossing any country and any ordinary obstacles. No more congestion of roads, no more barring of roads by the enemy's artillery fire, no long columns of transport to advertise movements, no confusion between transport of different units; the whole transport of a division following its advance in open order on a broad front.

These vehicles could be adapted to every purpose. They could carry guns, up to medium weight, ammunition, supplies or men. They could also carry bridging equipment and rafts; probably the best arrangement being that a certain number of them should be allotted to Field Companies for this purpose.

Their cost would not be excessive, and they might be used with trailers to economise engines.

Is it possible that they can be used to any great extent in peace for commercial, and especially agricultural purposes? For the former they would certainly have the advantage of saving the roads; and the farmer who suffers from soft ground and bad roads should find them invaluable. If it is possible, then besides having a stock to draw from, we should have the advantages of experiment in their development and use, and manufacturing facilities.

When, however, speed is required, we must stick to wheels and roads. The fast armoured car with a light gun has great possibilities for the future. These will be shown especially in two directions; for sudden blows at long distance at the outbreak of war, and for heading a pursuit after the enemy's line has been broken. They would not, as a rule, act alone, but would be reinforced, according to the purpose in view, by machine gun cars and Lewis gunners on motor cycles, and perhaps followed by infantry in lorries.

#### CHEMICAL WARFARE AND THE USE OF GAS.

There is, of course, a great prejudice among civilised nations against the use of gas, and this arises naturally from the cruel method that was first employed by the Germans. There is, however, no more need to bar the use of gas generally because certain gases cause unnecessary suffering than there is to forbid rifles in order to prevent the use of dum-dum bullets. There are gases which can give a quite sudden and painless death and others again which cause death with far less suffering than, say, a shell wound. It is easy to conceive cases in which it would be more humane to use gas than explosive shells. For instance, it often happens in our dealings with savage or semi-savage peoples, that we have to send out punitive expeditions, or to subdue local risings. The force approaches a stockaded village. It may be necessary to use light artillery against it, with the result that the village is set on fire, some of the inhabitants possibly burnt, and many receive painful wounds. By the use of a painless lethal gas instead of explosive in the shells, the resistance could be broken down by killing some of the defenders in the most humane way possible, and leaving the others unharmed; with the additional result of a moral effect which would go a long way towards breaking down further resistance.

In fact, as far as the ethics of the case are concerned, it would appear to be simply a question of discriminating between gases that may and those that may not be used; and this might be done in something like the old terms of the Hague Convention, by saying that no gas may be used which is calculated to cause unnecessary suffering.

It is true that the use of gas is forbidden by the League of Nations, but will that prohibition be effective? If we cannot absolutely rely on that, can we venture to ignore altogether the development of so potent a weapon? It appears to me that it will always be necessary to study it, both for protection and for the possible necessity of retaliation.

It may be remarked that Germany is forbidden by the Peace Treaty to manufacture poison gas. Perhaps it escaped notice that chlorine is an essential commercial product.

Again, the possibilities of chemical warfare are so infinite that in the future it may be impossible to distinguish between certain forms of smoke, or signals, and offensive gas.

The uncertain element about the future of the use of gas, if it continues, is the question of protection. This may ultimately become so cumbrous and hampering to active movements, that it will have to be foregone, except perhaps in some elementary form—just as armour was in face of bullets. A return to open warfare as the normal condition of campaigns would make this more possible.

There are other forms of chemical warfare which must, in any case, be studied; smoke, light signals, incendiary bombs and so forth. The whole of this study is merely a part of the next great development of our national industries. Commercial progress and prosperity in the 20th Century will depend on chemistry just as it did on mechanism in the 19th. The nation which leads in chemistry will lead the world, and since the arts of war always go hand in hand with those of peace, chemical predominance must needs have a great influence on success in war.

I wish it were possible to speak in more definite terms on the whole subject of gas, but that cannot be. I am sure you will join with me in recognising the extraordinary success with which our scientific chemists turned their great capacity to the requirements of war, and hoisted the enemy with his own petard. It is fitting that I should testify here to the extraordinary ability, energy and self-sacrifice which so many of them displayed; in most cases without fee or reward.

#### AIRCRAFT.

Here we are face to face with the problem of the future, and by far the most important advance in the art of war. We need not trouble ourselves, for the present, with the possible achievements of flying destroyers or even flying concrete forts. It is enough that in their present development there are such possibilities that within twenty years the Air Force estimates may have to be the most important part of our Defence Budget.

The rôles of the different kinds of aeroplanes are now well defined. They consist of:—

- High flying fighting planes.
- Low flying fighting planes.
- Bombing planes.
- Reconnaissance planes.

These will naturally all be improved in their various capacities from year to year, but what is mainly of interest to us is to distinguish between those types which will be, as it were, automatically developed by commercial necessities, and those whose attributes being purely military require to be developed by the Government.

The difference is, broadly, that bombing and reconnaissance machines can both be furnished from commercial types without much alteration, and their personnel also will be available, since the pilots would merely be required to take the machines to where they were wanted; whereas for the fighting planes, special types of machines are required and highly specialised military training for the personnel.

No one is likely to deny that for the sake of national safety it would be desirable for us to start the next war with an aerial fleet markedly superior to that of the enemy. It seems therefore to be indicated that the Government should encourage in every way the development of commercial aviation, with a view to the use of the commercial fleet in war, and at the same time should not shrink from spending all that is necessary to develop the military types of machine and to maintain a sufficient force of highly trained air fighters, to which indeed practically the whole resources of the military air force establishment should be devoted.

We assume then that civil machines will be suitable for the services of bombing and reconnaissance, while military machines and military pilots only are suited to those of high and low fighting.

In the mobilised civil class, capable as it is of either reconnaissance or bombing work, the probability is that the available resources will, for the most part, be devoted to bombing, because the numbers required for reconnaissance are more or less fixed. That is, for every divisional front in the line not more than six to eight machines can be usefully employed in this service. Any resources of civil aviation beyond those needed for maintaining this standard are available for bombing, to which therefore there is practically no limit save that set by the development of civil aviation itself.

The prospect of return to open or semi-open fighting suggests an interesting point with regard to the use of bombers. If, as all my argument tends to indicate, we may look for greater speed of manoeuvre and transport across country, the conditions which existed in the war, of extraordinary accumulations of dumps behind both fighting lines, will be very greatly modified. It is quite possible then that the bomber may find more profitable targets in the region where stores are being produced and troops trained, than in the zone of the armies.

In the category of fighting machines the standard of strength in high fighters is determined absolutely by the enemy's strength in similar craft, since the purpose of the high fighter is to drive his opponent out of the air. It is to be expected then that in any given establishment of military air force, the greater part will tend to be of this class, which inevitably must have priority, just as capital ships had priority in competitions of naval strength.

## LIAISON SERVICES.

The service of liaison is, under modern conditions, at once more important and more difficult than ever. On the one hand, divisions are numbered in hundreds and battalions in thousands, and are, in addition, grouped for fighting in an elastic system of dispersed elements which have to be connected somehow. On the other hand, the volume of fire in the modern battle has made this connection infinitely more difficult to maintain, and in the attempt to deal with this difficulty not only have the resources of modern science been called upon, but also those of the most ancient of our predecessors, such as men, dogs and pigeons. The principle followed in the war seems to have been that of Browning's Spanish monk, "twenty-nine distinct damnations, one sure if another fail." Not perhaps twenty-nine, but certainly more than a dozen different means of intercommunication came into, and remained in, use during the phase of fixed position warfare, in which there was no restriction upon installations of every kind, and very little on specialization inside and outside the fighting unit. There is evidently room, therefore, for simplification, and indeed the semi-open warfare of 1918 has already begun the process of eliminating those liaison means that cannot justify their existence in a fighting advance.

Behind the zone in which the enemy's counter preparation is effective the probabilities are still in favour of the continued use of the telegraph and telephone with wires, which alone are, or can be made, secret, unlimited in capacity, and quick in rendering.

In this zone the wireless service will be concerned specially with communication with aircraft, and with the interception and study of the same services on the enemy's side. They are best kept out of the general traffic of orders and messages, except in the case of wireless units attached to far-ranging detachments such as pursuing columns.

In front of this zone, however, the fact has to be faced that in battle telephone wires are certain to be cut by the enemy's fire, and still further to the front, in the actual area in which infantry is fighting its way forward, the laying and upkeep of lines is a matter of enormous and mostly unsuccessful effort. Modern science, however, has found means to cope with this situation by a development of the electrical listening post, invented for trench warfare. To-day, a force advancing in battle has a portable means of radiating currents of electricity through the earth in such a way as to be received by the "listening set" at the other end. At St. Mihiel, in September, 1918, which was a severe test in this respect, since the American infantry advanced considerably faster than the programme intended, this means of intercommunication is said to have been the only one which kept up touch from front to rear. The Germans occasionally employed their apparatus as far forward as company headquarters, and in any event, it should be workable between battalion headquarters and division. With the improvements that we may expect from research, it seems reasonable to suppose that ground wireless will come to be regarded as the standard means of communication between advancing infantry and the headquarters in immediate control of them.

There will always be some use made of human messengers, especially in advance of battalion headquarters, and possibly also of dogs, though opinion seems to be divided as regards the latter. But in so far as mechanical means are concerned it is suggested, with some confidence, that we should put our money on ground wireless.

In sum, then, we may predict wire telegraphy and telephony for communications in rear of division, wireless for communication between aircraft and ground headquarters, and earth telegraphy for communication between troops in advance of division other than aircraft, as the standard methods of the future.

There is another kind of liaison beside this message traffic which should be mentioned, that is, the simple notification by troops of their position, either to aircraft or (by means of smoke and light signals) to the headquarters in rear, whose survey units determine with their accurate intersection instruments the location of a pillar of cloud by day and a pillar of fire by night. However the message and order service be organized this will always be a responsibility of the troops themselves.

#### PROBABLE WEAPONS OF THE FUTURE.

There never was a war in which such an extreme variety of weapons was used as in this one. This arose from the inadequacy of the old weapons to deal with new conditions, which naturally resulted in a feeling out in every direction for something that would fit each new requirement as it arose. It can hardly be said that any definite solutions were arrived at, and it is necessary that this question should be threshed out as soon as possible. It is obvious that our old armoury wants overhauling and that the new weapons selected should be adapted with sufficient foresight to meet the needs of the next war. Neither on military nor economic grounds can we think of equipping the army again with the extraordinary medley of clubs, knuckle dusters, knives, shot-guns, etc., which were tried at different times.

First, as to the future of the rifle. In view of the large proportion of Lewis guns now allowed for, it is probable that the long rifle has seen its day, and it may perhaps be replaced by a short automatic carbine, with large magazine and a long bayonet. Such a carbine, accurate up to five hundred yards, should do all that is wanted for the ordinary infantryman. A good dagger is also, I suggest, very useful, and for work in confined spaces it might be attachable to the carbine, instead of the bayonet.

Ought an automatic pistol to be added for the rifleman? I think not.

Will grenades survive? There are so many objections to them that it seems doubtful. On the other hand, the grenade has the definite advantage of high angle effect, and a certain moral effect. It is to me very doubtful whether these will outweigh the disadvantages, especially if we assume that the warfare of the future will generally be open and there will not be the same universal prevalence of shell craters.

Will the Stokes gun survive? This seems a very open question. It will always have the drawback that the windage necessary for dropping the shell into the bore must detract from accuracy. The extraordinary rapidity of its fire is a very important point, but we must remember the weight of the ammunition and the difficulty in open warfare of feeding a weapon that is used at such short ranges.

As regards artillery, we must no doubt look for some evolution. This evolution must be guided by a definite idea of the tactical probabilities of the future. If we may assume that the full exploitation of mechanical transport will lead to greater daily progress in a successful battle, two requirements appear. First, great mobility in the artillery accompanying attack. Second, ranging power in the artillery destined to prepare and cover it. For the former it is conceivable that the present functions of the 18-pounder field gun and the heavy machine gun may be merged in something like a 6-pounder automatic. Such a gun, four-horsed, might weigh no more than 25 cwt. behind the team, and would inherit the Horse Artillery tradition.

With regard to the latter, that is the supporting mass of guns, it is worth while first to remember certain lessons of 1918. The first condition for success is an artillery surprise on the largest scale. For this purpose the guns must be brought up at the very last moment—without revelation of their purpose by previous constructional work on battery positions and dugouts—and must be employed in very great numbers to get the quickest possible effect. On May 27th, 1918, it is estimated that the Germans deployed 30 batteries to the kilometre of front and allowed less than three hours for the preparation. The result was a progress of 12 miles in a day. There are two essentials for such employment of guns. The first is the most thorough calibration, away from the intended scene of action, of all guns that will take part; the second is accurate survey work in marking out beforehand the exact position of every fire unit. These two scientific elements of preparation, in conjunction with another scientific element—the meteorological service—will enable the artillery of the future to escape declaring itself by registration.

But the most complete scientific preparation of fire will not help surprise unless the type of transport employed is such that the artillery mass can physically be got into the calculated positions in the shortest possible time. Here comes in the advantage of mechanical transport in the form of caterpillar carriage or haulage.

Now as regards the necessary ranging power, if we are going to look for a possible advance of 12 miles on the first day of battle, our artillery must be capable of carrying an effective barrage to a depth of something like 18,000 yards, and if a similar advance is to be made next day, the transport method of the barraging artillery must be such that the change of position can be completed in the interval between the cessation of effect on zero day and dawn on the next.

For this purpose a gun must have accuracy at long range, and the lowest calibre consistent with this accuracy, for the sake of ammunition supply. It may be suggested that a short and a long 4.2 gun in divisional

and corps artillery respectively could be made to answer these purposes. The problem is their transport across country in the follow up. I venture to think that it is desirable to eliminate horse transport for these guns, even for the short or divisional artillery type, and that caterpillar vehicles should be employed. A short 4.2, 25 calibres long, would have a weight in traction of about 50 cwt., and an accurate barraging range of some 12,000 yards from the guns. The long 4.2 would be 50 calibres in length divisible for transport into two loads, and having an accurate range of 20,000 yards from the guns.

#### THE SOLDIER AS HANDYMAN.

Here again we have a marked point of departure in the new warfare ; the soldier of the future must be something absolutely different from his predecessor. Compare the 18th or 19th Century advance of a battalion in line with the modern attack in depth carried out by "blobs." The two operations are radically different in nature. In the former case the soldier had to know the use of his rifle and bayonet, to be able to drill as part of a machine, and to be thoroughly well disciplined. It was a simple curriculum, which yet was supposed to take a long time to acquire. As for individual action or initiative by the private soldier, they were considered not only unnecessary but dangerous. To-day the thoroughly efficient soldier should be master of more trades than the Roman legionary, and in action he requires to use his whole intelligence. Even the long service men of the permanent force can employ every day of every year profitably in learning something. The difficulty will be to get the *citizen soldier* anywhere near the desirable standard of all-round efficiency in the short time available for training. For the complete soldier should be able to turn a hand to everything. In the confused happenings of a general action the man with the rifle should be able at need to handle a Lewis gun or machine gun ; he may need to give a hand with the accompanying artillery or to serve captured guns of the enemy ; he should know something of explosives and their characteristics ; he should have a certain amount of knowledge about fuses and the use of signals. Any other trifles of knowledge that he can pick up will find their use on a day when casualties are heavy, such as how to handle a ground wireless set.

Equally important with any of these is the understanding of team play. In an advance the rifleman has his function, the Lewis gunner his, the Stokes' gunner or light howitzer man his, and so forth. It is necessary that each should not only be master of his own work, but should understand that of the others, so that they can back each other like a scientific football team ; knowing when the task ahead is for themselves alone, and when it is for the others, and how they can best play into their hands.

This does not seem at all too much to expect when we consider the class of material that Great Britain has available for the purpose. Intensive training is required, and really good instruction. With that, if the men are so taught as to arouse their interest, the end can be attained. The old-time routine of the soldier was calculated to deaden most of the

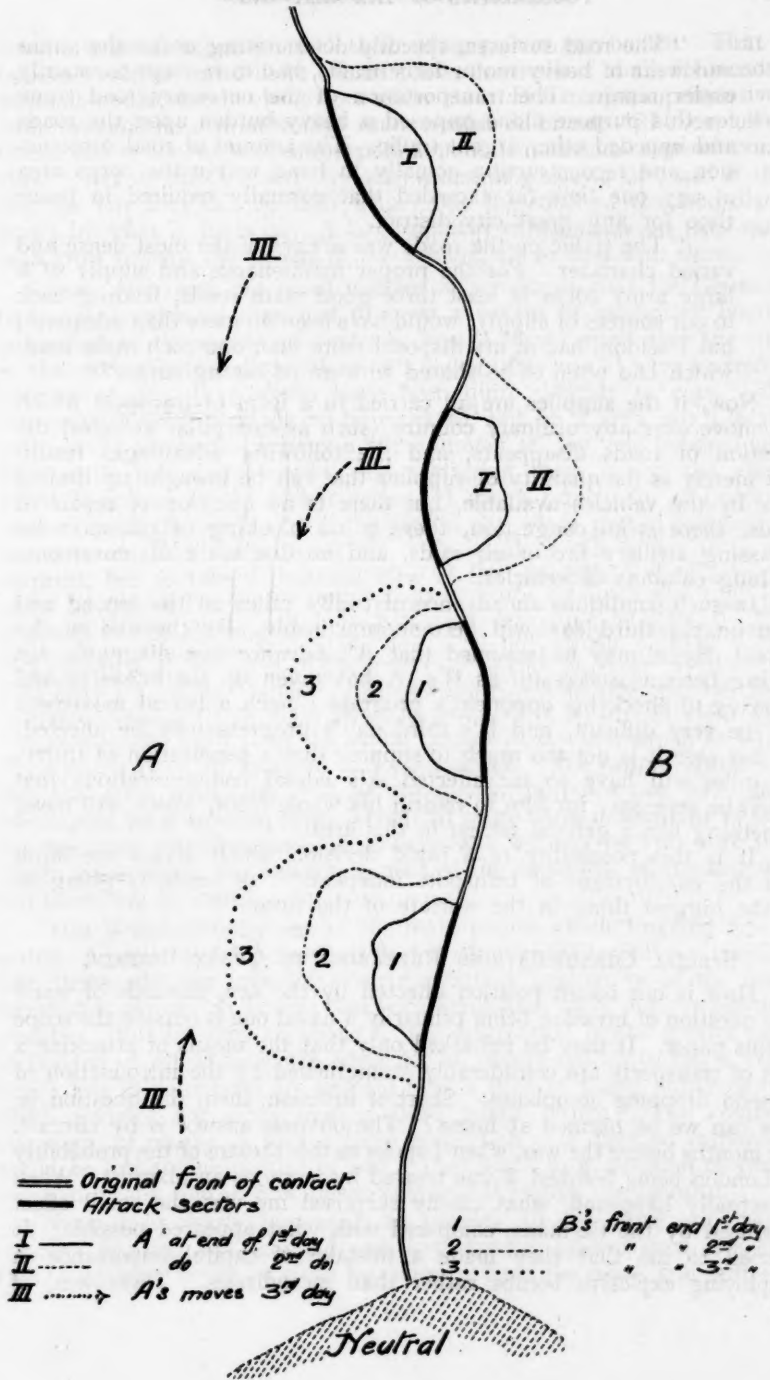
faculties; the new training should awaken them, and make not only a better soldier but a better all-round man. The British soldier, besides other good qualities, has on the average a curiously high level of practical intelligence. This should be utilized to the utmost limit, while also turning to account special civilian training and aptitudes.

[At this point the lecturer illustrated on the blackboard the case of a sudden attack on an area of strategic importance which might be situated 100 miles within the enemy's frontier, by means of armoured cars and motor-cycles, which would be assisted by aircraft and followed up by infantry in lorries. The distance could be covered by the fast elements in six hours, with the effect of complete surprise. The area thus occupied could be held, until the development of warfare on the national scale, by the permanent forces of the attacker. The other side can, if it chooses, attempt with its permanent force to regain the area, or may retaliate in another way, but the point is that the assailant has at the outset the possibility of gaining a definite strategic advantage by a sudden blow struck without warning. This involves a new conception of frontier fortification. It may be necessary on the main roads and bridges to provide special means of stopping raids of this kind—something in the nature of *forts d'arret*, but smaller.]

Let us now assume that the period of preparation has elapsed and the whole available forces of each nation are massed on the frontier line. It may be supposed, therefore, that the whole length of that line is held in depth, but it is not likely that anywhere along the line—except, perhaps, in one or two special places—there will be any great development of constructed defences of the nature of a Hindenburg line; for the reason that during the months of preparation the resources of the community can be employed to very much more profit in military training, in the manufacture of munitions, and in other productive activities than in digging holes in the ground. A certain amount of light defence work in the forward areas of both armies is all that is to be expected. We can also assume in this massing of forces that there will be a sufficient supply of artillery available to allow of the extra strength required in particular places for a break-through.

Let it be assumed that each side has determined to break through at certain places, indicated by the thick black lines on the diagram. Taking the experience of the late war, it may be supposed that these attacks might penetrate to a depth of twelve miles on the first day. Under the old conditions, after such an extensive gain, the next day's advance was usually limited to about two miles, depending as it did on the possibility of bringing up supplies and replacements, which in turn depended largely on the existing road system. A statement by Sir John Monash as regards roads and transport in cases of this sort may be quoted in illustration. Dealing with the August advance in the Somme bend, he says:—

“The rate of our advance was controlled almost as much by the speed with which main and secondary roads could be made practicable for traffic as by the degree of resistance offered by the enemy.



"The road surfaces, speedily deteriorating under the strain and wear of heavy motor lorry traffic, had to be kept constantly under repair. The transportation of the necessary road stone for this purpose alone imposed a heavy burden upon the roads and impeded other urgent traffic. The amount of road construction and reconstruction actually in hand within the corps area at any one time far exceeded that normally required in peace time for any great city district.

"The traffic on the roads was always of the most dense and varied character. For the proper maintenance and supply of a large army corps at least three good main roads, leading back to our sources of supply, would have been no more than adequate; but I seldom had at my disposal more than one such main road, which had often to be shared with an adjoining corps."

Now, if the supplies are all carried in a form of transport which can move over any ordinary country (such as caterpillar vehicles) the question of roads disappears, and the following advantages result. Not merely is the quantity of supplies that can be brought up limited only by the vehicles available, but there is no question of repair of roads, there is no congestion, there is no blocking of transport by harassing artillery fire or air raids, and no disclosure of movements by long columns of vehicles.

In such conditions an advance of twelve miles on the second and even on the third day will become practicable. By the end of the second day it may be assumed that A's advance (see diagram), not having been as successful as B's, A has given up the offensive and is trying to check his opponent's progress. Such a lateral movement will be very difficult, and B's third day's progress may be affected. In that case it is not too much to suppose that a penetration of thirty-six miles will have so far affected A's lateral communications that it will be necessary for him to reform his whole front, which will mean something like a general retreat in this area.

It is this possibility of a rapid decision which makes me think that the employment of transport independent of roads is going to be the biggest thing in the warfare of the future.

#### SPECIAL CONSIDERATIONS REFERRING TO GREAT BRITAIN.

How is our island position affected by the new methods of war? The question of invasion being primarily a naval one is outside the scope of this paper. It may be remarked only that the means of attacking a fleet of transports are considerably strengthened by the introduction of torpedo dropping aeroplanes. Short of invasion, then, the question is, how can we be harmed at home? The obvious answer is by aircraft. Six months before the war, when I spoke in this theatre of the probability of London being bombed, I was treated by many as an alarmist. When it actually happened, what chiefly surprised me was the small effect produced by the Germans, compared with what appeared possible. It seemed to me that they made a mistake of capital importance in employing explosive bombs rather than incendiaries. There was, of

course, a great expectation of their using poison gas bombs. That I believe would be found to be the least effective method of all, for reasons which it would take too long to consider here. But comparing explosives with incendiaries we have this fundamental difference: the explosive causes loss of life, as well as material destruction, and has a great moral effect; but its effect is strictly local, unless it causes a fire, and if the fires are few they can be dealt with. But the effect of the incendiary grows by what it feeds on. A large number of simultaneous fires may soon grow beyond the powers of the fire brigade to deal with them.

Now, even with the small number of aeroplanes that the Germans had over London, if they had dropped a weight of incendiary bombs equivalent to the weight of explosive bombs they carried over the city or the more closely built portions of London, they would have started a number of fires that would have been quite difficult to cope with. Supposing a similar attack to be repeated, but on a very much larger scale, every aeroplane carrying a large number of, say, one hundred and fifty 40-lb. incendiary bombs, and scattering them freely, the effect *might be serious in the highest degree*. I speak principally of London, because in all the world that is the capital city whose partial destruction would most affect the national life. To speak of this is not to be an alarmist, but to take a practical view of the possibilities that actually must be guarded against. The papers are full of rejoicing over the conquest of the air, and they dilate on the constantly increasing range and carrying power, and independence of weather, of aircraft. It is very good for commerce, but it has its peculiar dangers for us. The time has practically arrived when powerful aeroplanes with a military load can pass in one flight from the nearer regions of the Continent, as far as the western coast of England and back again. We cannot ignore the fact that such aeroplanes built for commercial purposes can very easily be adapted for bomb dropping. There can be no harm in speaking of this, because these considerations are obvious, and we may be very sure that every lesson which the failures, as well as the successes, of the last war can teach will be learnt.

This is undoubtedly one of the main points which England has to watch. A nation which possesses a fleet of commercial aeroplanes, running into thousands, can organise a surprise attack against us of the most formidable nature. It is true that such aeroplanes have not got fighting qualities. But for such an object as the destruction of the greater part of London, it might be worth while for an enemy nation to risk a very heavy loss in aeroplanes by sending over a fleet of many hundreds, of which perhaps not more than a third might return. The counter argument, of course, is that a large proportion of a fleet so employed would be lost to the theatre of war. That leads to a question of comparative means, and of how far success would justify the sacrifice.

Now, it is clearly impossible to provide all the more important towns of England and Scotland with local defence against such attacks. That, I imagine, would be given by warnings from the coast, transmitted

to a large number of fighting aeroplane stations, from which forces could be dispatched in any requisite direction.

But as regards London the case is different. Here local defence must be provided, and since we consider the possibility of attack by very large numbers of planes, whose mission would be to get through to their object at any cost, we cannot rely on fighting aeroplanes to stop them all. Moreover, we know that cloud conditions may very greatly hamper defensive work. Anti-aircraft guns will therefore be needed in full quantities, with all their concomitants of listening and signalling apparatus, etc. This involves a large equipment and a large and highly trained permanent personnel. On the other hand, we shall, in any case, need a large permanent personnel to meet the requirements of the future, and the London area might form the principal depot and training ground. The expense entailed is in the nature of an absolutely necessary insurance.

#### GENERAL REMARKS.

There are two morals in all that has gone before. First, that the training of the officer and soldier must, from this time, be more comprehensive and more thorough than was ever dreamt of before. This incidentally means a largely increased expenditure on instruction. Second, that we have entered a period when mechanical adjuncts to war are assuming an importance of which no one can foretell the limit. The most important of these is undoubtedly aviation. The nation which has the lead in aviation, both in the number and quality of machines, and the skill of the airmen will have an enormous advantage. It is one which we cannot afford to forego. But all the other mechanical adjuncts require equally careful study and development, since in these days mechanical science has such surprises that we cannot afford to be caught napping in any direction.

But this means money, and the nation must be prepared for the necessary expenditure. With limited funds available, it would seem desirable to feed research and to endow the instructional schools at the expense of reducing the personnel of the permanent army.

#### DISCUSSION.

MAJOR-GENERAL F. STONE: I think Sir Louis Jackson has done the country a very great service in bringing forward this vitally important question of preparation for the next war. There are many people who shudder at the idea of there ever being a next war, and there are a good many other people whose interest it is to keep us in the same condition in which Mr. Norman Angell tried to keep us before the outbreak of the recent war. I remember being in this theatre, I think it was only about a year before the war—in 1913—when the fallacies of Mr. Norman Angell's theory were exposed by a naval officer whose name I am sorry to say I forget for the moment. Lord Sydenham was in the chair, and he remarked that he considered that such theories as Mr. Norman Angell's, however genuine they might be, and however disinterested they might be, were a source of the very gravest danger to this country when published broadcast,

inasmuch as they encouraged the pacifist element in the country to induce those who believed that a war with Germany was inevitable in the very near future practically to lay down their arms. I think on the present occasion Sir Louis Jackson has done a public service for which we cannot thank him sufficiently, and I trust that this lecture may be the beginning, not of trusting in the League of Nations, but in our own right hand and our stretched-out arm; and I trust that we shall stretch it out again if necessary when the time comes.

CAPTAIN F. K. C. GIBBONS, R.N.: With reference to what Sir Louis Jackson said about the soldier of the future being a handy man, I think it might be of interest if I told you a little incident in that connection. I saw a letter from a young American who had joined up in the Australian forces, written to a friend of his at the time when it was doubtful whether America would come into the war, and he said in it that he supposed the boy to whom he referred would join up as soon as possible if America came in. He said: "Impress on him that there is nothing he can learn that will not be useful to him if he comes out here." That was recognized by a private in the trenches in France at the time, and that was the advice he was giving to people who intended to join up. I think that emphasizes very much what Sir Louis Jackson said about the soldier of the future being a handy man.

THE CHAIRMAN: As no one else desires to address the meeting, there are one or two very brief observations I should like to make on the extremely valuable and far-reaching paper that has been read to us by Sir Louis Jackson. I confess that, to myself, perhaps the most interesting point with which he dealt was the question of whether you can entirely do away with roads in land warfare, so that land warfare in that respect would resemble sea warfare or even air warfare. What a comfort it would be to Staff Officers not to have to make all those elaborate arrangements for all the different services for transport along the roads up to the front and back again! How enormously it would simplify, and yet at the same time complicate operations, as the lecturer has shown. One other point of great interest that Sir Louis Jackson dealt with was the ethics of using gas. The problem of ethics in war is an extremely difficult one. I do not think that anyone who has read the various usages of war as regards lethal weapons and so on can draw any very clear or distinct principle from them. As Sir Louis Jackson has said with regard to gas, it was its novelty and perhaps to some extent the fact that unnecessary cruelty accompanied the first emission of gas that really turned public opinion against it, because on principle it is extremely difficult to see why you should not kill a man with matter in one stage rather than in another. If you can kill a man with a solid why should not you kill a man with a gas; and if you can kill a man with a gas why should not you kill a man with a liquid? On principle, therefore, as regards the mere condition of matter, there does not seem to me to be any reason why you should not use one form more than another. You can, of course, draw some distinction as regards the unnecessary amount of cruelty that is inflicted in putting a man to death, but that, of course, does not depend specially upon the class or kind of matter that is actually used in doing so. It is always a very difficult thing to see what is the real value of these different rules and their approved-of conventions. I do not think they do very much more than register at any particular time what is the view of the more advanced and humane nations on questions of the methods of destruction in war. There is always the danger that they may bind the good and well-behaved nations and not bind those nations that are less advanced and less civilized. Now that we have come to a period when wars are no longer fought merely by professional armies, but where, as in this war, the whole life

of the nation is pitted against the whole life of the other nation, if one nation gets a great advantage by the use of some weapon that is forbidden, we want a very different degree of human nature from that which obtains now to imagine that that particular nation will refrain from that particular mode of warfare. The great difficulty is the sanction in all these cases. When you have not only nations but combinations of nations or groups of nations pitted against each other the argument is always this: "If we win it does not matter what other people say; if we lose, nothing matters." So that you have great difficulty in finding your sanction. Now it is said that the real maintainers of the sanction are the neutrals. I do not want to draw any deduction merely from this particular war, but looking back over past wars I am bound to say that the sanction of neutrals in that respect is an extremely weak one. We know how exceedingly difficult it is to mobilize a country for war that is not directly connected with the war on purely moral questions or on questions solely connected with the breach of a certain usage, when the breach of that usage does not affect in any material way the particular neutral. I think it is a good many chances to one whether that neutral will come into the war or not. The only cases in which a neutral is likely to act as a powerful deterrent to the breach of some of these usages is where the neutral himself is painfully injured by the breach of those particular usages. That is, after all, not a very strong sanction; and therefore it appears to me that the whole question of the legitimacy or illegitimacy of the use of certain weapons or materials of war wants to be entirely reconsidered as a result of these two great new factors—the whole power of whole nations being pitted against each other, and, secondly, the wonderful variety of new weapons which the great advance of science as applied to the art of war is certain to bring forth. There is one other point also which I think it is perhaps worth while to make observation upon, viz., what the lecturer has told us about bombing and far-distant destruction. As regards the question of whether war is going to be commenced with notice or without notice, we certainly do seem to have travelled very far from the chivalrous conception of allowing your enemy to develop his forces to the utmost extent in order that you may do the same, so that there will be no doubt whatever who is the best man. That is a sort of chivalry which I do not think democracies are likely to indulge in; and, more especially considering the enormous advantage that the first tremendous blow given at the opening of a war may bring about, I think it is far more likely that the wars of the future will be less indulgent in notice than they have been in the past. This question is closely connected with the immunity of civilian populations. During the present war we have had it very much impressed upon us that it is the *morale* of the nation behind the fighting man that determines the victory; and we know quite well that it was the decay of the *morale* in Germany rather than at the front, spreading from the back to the front among the fighting men, that determined the end of the war. Moreover, with these long-distance attacks, when you would send your bombing squadrons in order to destroy lines of communication, centres of manufacture, great factories and so on, it really begins to be very difficult to draw a distinction between combatants and non-combatants, especially, for instance, during this war, where we have always been told that those who were helping the operations at home were just as much in the fighting line as if they were actually serving in the fighting line itself. If you press that metaphor very far it is rather difficult to see to what extent you can keep up the old clear distinction between the fighting man and the non-fighting man, because the fighting man used to be in a very narrow and limited zone of operations, whereas in these days practically the whole of the nation is engaged on the industries which support the war and are all in that sense fighting. There is just one more point which I should like to say a word upon, and that is the somewhat alarming

picture of the future soldier which has been drawn by Sir Louis Jackson. He is to be a paragon of all the arts, and, no doubt, of all the virtues; he is to have so many qualifications; and it suggests itself to me (as one of those connected with the financial side of these undertakings) that we shall have to pay these gentlemen a far higher rate than we pay now. The result of that will be that, as we are always limited in expenditure in times of peace, because people naturally do not wish to look forward to anything so disagreeable as expenditure in time of war, that the actual numbers of the personnel will be severely restricted. The result is that, if there are all these highly-trained specialists, you must to a far larger degree than in the past rely upon the civil population, and arrangements therefore must be made far more carefully than they were before to utilize—and to utilize suddenly and not by way of improvisation—all the ability and intelligence and force which lie in your civil population. So that I think Staff Officers need not fear that their labours in the future will be diminished; they have a vast field before them and one which they can work upon most profitably. One or two of the other deductions that result from that are these—that, since the connection between war and science and industry is getting closer and closer, it will be more necessary in the future than in the past that our Staff Officers and those who are dealing with the matter should watch every development in industry and science which can possibly bear upon the science of war, so that our plans may be more matured and ready than they have been in the past. I do not wish to enter upon a discussion of the larger matter of the Air Force at the present moment, but I could not help thinking, when Sir Louis Jackson referred to these clouds of aeroplanes which would be crossing the frontier backwards and forwards at the outbreak of war, what a very modest sum £15,000,000 a year—which is all we are going to allow ourselves—was to provide these great swarms of air locusts. And I think this further point comes out, which has its bearing on recent discussions—that the inter-action between the different services is going to be far greater than it has been in the past; and the greater becomes the necessity for a General Staff which really combines the wisdom of all the three great services. That, I think, has forced itself to the front as a practical question which our leading Statesmen will have to deal with very soon.

I conclude by thanking the lecturer for the very far-reaching and most instructive and interesting paper he has given us. I hope it will have the result that he has suggested—that it will start speculation and consideration of all these matters among those who are competent to deal with them.

GENERAL PITCAIRN CAMPBELL: It affords me much pleasure to propose a hearty vote of thanks to the Chairman for presiding over the meeting to-day, and I hope you will show your appreciation of his remarks by a very good round of applause.

The resolution was carried by acclamation, and the meeting terminated.

## THE TURKISH ARMY IN THE GREAT WAR.

By LIEUT.-COLONEL C. C. R. MURPHY, Indian Army.

IN the following article it is proposed to set down certain facts and figures regarding the Turkish Army and to explain some of its more obscure formations. Orders of battle at several decisive stages of the war have been added by way of further elucidating the part played by Turkey in the great struggle.

A complete order of battle of the whole Turkish Army is unfortunately too lengthy a statement to be included in this article, as it deals with no less than 63 regular infantry divisions and seven Caucasus infantry divisions, or 70 in all; also with 191 regular regiments and 17 Caucasus regiments. Of the 70 divisions some 24 regular and all the Caucasus divisions were formed after the outbreak of war.

The records in the Ministry of War at Constantinople show that in August, 1914, the Turkish army consisted of thirty-nine infantry divisions, namely, those numbered from one to forty, excluding the 19th and 20th, which were not formed until the beginning of 1915, and the 57th Division, which was in the Fifth Army in the Adalia area. Very few of these divisions were up to peace strength, and there were not more than 150,000 combatants in the whole Turkish Army. From the date of the order for general mobilization up to the signing of the Armistice, nearly 2,700,000 men were called to arms, making a grand total of 2,850,000 men. When it is considered that the number of adult males in the Ottoman Empire, including Arabs, Circassians, Kurds, Moslem immigrants from many lands, Armenians, Jews, Greeks, and others, who were eligible for military service when war was declared, or who became eligible during the four succeeding years, was perhaps less than four and a half million, it will be admitted that these Turkish mobilization figures represent a great achievement. The strength of the Turkish Army appears to have reached its maximum about May, 1916, that is to say, just after the fall of Kut-al-Amarah, when it comprised forty-three divisions and aggregated roughly 650,000 combatants. The Turkish General Staff estimate their total casualties, up to the signing of the Armistice, at nearly two and a quarter millions<sup>1</sup> including deserters. The number of the latter will never be known with any accuracy, but it is supposed to have reached the amazing total of four hundred thousand.

<sup>1</sup> This is merely an estimate and probably a high one at that. The organization necessary for keeping an accurate record of casualties did not exist in the Turkish Army.

During this war the Turkish Army has contained several formations and units which have puzzled us considerably. A description of some of these may therefore be of interest.

*The Yildirim Army Group.*—*Yildirim* means lightning; it was applied as a nickname to Sultan Bayazid at the end of the 14th century, and alluded to the rapidity of his movements.

The Yildirim Army Group was formed on July 15th, 1917, with the object of recapturing Baghdad, and was to consist of the 6th Army, already in Mesopotamia, and the 7th Army, which was being newly formed in Constantinople from the troops returning from Galicia, Rumania, and Macedonia. The original scheme was, however, practically strangled at birth.

For strategical reasons the Palestine front, which was then being held by the 4th Army, was taken over by the 8th Army, the 4th Army Command being changed to that of "The Syrian and Western Arabian General Command," with its headquarters at Damascus. This change did not last long and on January 17th, 1918, it again became that of the 4th Army and was placed under the Yildirim Army Group, the 48th Division, the Amman Expeditionary Force, and some scattered units being added on February 23rd. Two days later the 6th Army joined the Yildirim, which now therefore consisted of the 4th, 7th, and 8th Armies. Marshal Liman von Sanders was appointed to the Yildirim Command in February, 1918, in place of Marshal von Falkenhayn, but he did not actually take over the command till March 1st. After the Palestine retreat the 8th Army headquarters were disbanded at Smyrna on October 10th. Those of the 4th Army were disbanded on October 15th, and those of the 7th and Yildirim Army Group itself on November 4th. At the time of the retreat the 2nd Army was also placed under the Yildirim. Its headquarters were disbanded on December 15th.

The following is a translation of the original order for the formation of the Yildirim Army Group :—

General Headquarters,  
15th September, 1917.

1. A new Group Command will be formed under the name of the Yildirim Army Group Command. The Group Commander will remain in Constantinople for the present.

2. Field Marshal von Falkenhayn Pasha has been appointed Commander of the Yildirim Army Group and Colonel von Dummès Bey has been appointed Chief of his Staff.

3. The 6th and 7th Armies will come under the Yildirim Army Group.

4. For the present the Order of Battle will be as follows :—

(a) *6th Army.* 13th Army Corps. 2nd, 6th, and 46th Divisions.  
18th Army Corps. 14th, 51st, and 52nd Divisions.

- (b) *7th Army.* 3rd Army Corps. 24th, 50th, and 59th Divisions.  
15th Army Corps. 19th and 20th Divisions.

(c) *German Asiatic Column.*

5. The 6th Army will be placed under the command of the Yildirim Army Group from the 16th September, 1917.

6. The headquarter personnel of the 7th Army will be completed by the Ministry of War as soon as possible. When this has been done the 7th Army will come under the command of the Yildirim Army Group.

7. For the present the headquarters of the 7th Army will be in Constantinople. The troops of the 7th Army will be placed under the command of that Army as soon as they reach Constantinople. The 1st Army in Constantinople will keep the 7th Army Command informed as to the arrival of these troops.

8. The instructions regarding the official relationship between the Army Commands and the Yildirim Army Group Command will be issued as a separate order.

9. The 2nd and 4th Armies and the Yildirim Army Group will exchange Daily War Reports.

10. The telegraphic address of the Yildirim Army Group headquarters will be "Yildirim Group Command Constantinople."

11. This address will be sent to all telegraphic centres in the Empire by the Yildirim Army Group Command who will be responsible that this order is carried out.

(Signed) ENVER,

*Vice-Generalissimo.*

No. 5392.

*Mevlevi Battalions.*—At the outbreak of war the Mevlevi, or dancing dervish, community offered their services to the Empire in order to encourage recruiting and to give religious support to the army. It will be recalled that these Mevlevi have monasteries in various parts of the Ottoman Empire and have considerable influence amongst certain classes of the people. The offer was accepted and a battalion 800 strong, consisting entirely of Mevlevi dervishes, was formed in December, 1914, at Konia, the Mevlevi capital. From there it was sent down to Damascus, where it remained for two years. At the end of August, 1916, a second battalion was added and the two battalions formed into the Mevlevi Regiment. The 2nd Battalion was not composed of dervishes, but of ordinary recruits. The regiment did no fighting until the final phases of the Palestine operations, and was disbanded at the end of September, 1918.

*The Constantinople Fire Brigade.*—A famous regiment forming part of the 1st Army. Their permanent station is Constantinople and their principal duties are those of an ordinary city fire brigade, but they also

furnish guards at places like the Ministry of War and they attend ceremonial parades, such as the *Selamlık*, in which they take a picturesque part. They are popularly known as the Constantinople Fire Brigade, or Sapeurs Pompiers, but their real name is the *İtfaiye Alai*, or Fire-Extinguishing Regiment.

Their pre-war establishment was four battalions, composed of men specially selected from line regiments. They had no machine guns. During the war five additional battalions were raised, making nine in all. The 2nd and 4th Battalions were sent to Mesopotamia and two new ones, the 5th and 6th, and a company, were raised in Constantinople to take their places. Shortly afterwards this company was expanded into the 7th Battalion. The 1st, 3rd, 5th, and 6th Battalions were sent to Gallipoli to join the 5th Army. An 8th Battalion, formed from a nucleus taken out of the 7th, was raised in 1917, and on July 13th, 1918, a 9th Battalion was added. At the beginning of 1919 only three battalions existed, namely, the 7th, 8th, and 9th.

*The Osmanjik Battalion.*—At the beginning of the war, about 450 Fidais were collected together under Lieutenant-Colonel Sulaiman Askeri Bey, and formed into what was termed the Osmanjik Battalion. They were originally intended to be sent on special service to the Russian shores of the Black Sea, but that scheme was abandoned and they were sent to Mesopotamia instead. There this curious formation was further obscured by being amalgamated with the remnants of the 1/26th Regiment and re-named the 1st Muretteb Battalion. The Fidais did not constitute an official Turkish organization.

*Muretteb Units.*—This is a term which sprang into existence during the Balkan wars, being applied to any abnormal or scratch formation the composition of which was not in accordance with the permanent organization of the time. There have been many *muretteb* units in the Turkish Army during this war, but the term has not been applied to a division, arbitrary formations of this kind being known nowadays as Expeditionary Forces or Groups.

*Depot Formations.*—These were formed with a view to keeping units up to their full strength. The original scheme was to provide each regiment with a depot battalion and each division with a depot regiment. However, towards the end of 1917 the supply of reinforcements for the field armies began to fall seriously short of the demand, and depot regiments themselves were sent into the line and used as regular units. As these were gradually destroyed new depot regiments were formed at selected centres in the area of each army. No depot divisions were formed. Towards the end of the war these depot formations were organized as a separate command under an Inspector, who was a Major-General.

*Non-Commissioned Officers' Training Units.*—After the general mobilization it was found that the Non-Commissioned Officers' Training

School was inadequate to furnish anything like the number of N.C.O.'s required by the army. In order to supplement the supply, several Training Units were formed in Constantinople, in which the N.C.O.'s of each arm and branch of the service were trained separately.

*Muhafiz Units.*—Troops used independently for local protection. Sometimes they consisted of the whole, or part, of a regular infantry or cavalry regiment, sent to a particular centre on special duty; sometimes, as in the case of the Constantinople Muhafiz Regiment, they contained as many as four complete battalions. During the war, Muhafiz Units were occasionally posted to divisions as ordinary reinforcements. A *Sahil Muhafiz Tabur* is a coastguard battalion.

*The Milli Tribe.*—A Kurdish tribe of the Diarbekir Vilayet. About the time of the Constitution Ibrahim Pasha rebelled against the Turkish Government and proclaimed the independence of his tribe. The Millis, being Kurds, are not liable to military service in times of peace, but during war they are expected to provide a certain number of irregular horse and foot. Accordingly, in December, 1914, they sent a body of horsemen into the Sari Kamish area, but they returned without doing any fighting. Their next venture was to send some men, both mounted and dismounted, down to Nasiriyah, and these took part in the Turkish attempt to recapture Basrah.

There was no regular unit in the Turkish Army which was composed wholly or even partly of Millis during the war. Nevertheless, the dismounted Millis with Sulaiman Askeri became known, however incorrectly, as the Milli Battalion. The Turkish terms *Millis*, militia, and *Gunulu*, volunteer, are used synonymously, and the fact that volunteers when taken prisoner often described themselves as *Millis* has possibly led to confusion.

*The Islam Army.*—The name given to the national army of the Muhammadan peoples of the Caucasus, which was raised in 1918 under Nuri Pasha.

After the Russian revolution, both the Georgians and the Armenians began to reorganize their armies, and in doing so they received some assistance from the Germans. The Muhammadans of the Caucasus then began to do likewise and they applied to Turkey for help. The Islam Army scheme never received the official sanction of the Turkish Cabinet, but it had the entire approval of Enver Pasha, who saw in it not only great political possibilities, but also an opportunity for providing his brother with a lucrative appointment. Service with the Islam Army was optional, but a step in promotion was given to every officer and non-commissioned officer who joined it. Altogether about 150 officers and a large number of other ranks took service under Nuri Pasha, who was also promised the loan of the 5th Caucasus Division until the venture became a going concern. The headquarters of the Islam Army were at first at Genjeh and then at Baku. After the Armistice was signed all the regular officers and other ranks who were with Nuri Pasha were recalled by the Ministry of War, but it is by no means certain that they all obeyed the

summons. The special orders of battle which are given further on contain one of the Islam Army.

*Caucasus Formations.*—After the battle of Sari Kamish in January, 1915, the 3rd Army, which consisted of the 9th, 10th, and 11th Army Corps, became very weak and towards the end of 1915 the 5th Army Corps was transferred from the Dardanelles and added to the 3rd Army.

After the fall of Erzerum in January, 1916, and of Erzinjan in July, 1916, the ranks of the 3rd Army became once more depleted, and so the Army Commander, Lieutenant-General Vehib Pasha, proposed to reorganize his army by forming two new Army Corps, to be known as the 1st and 2nd Caucasus Army Corps, out of the four existing ones, which were to become Caucasus Divisions, the old divisions becoming Caucasus Regiments. The scheme received the approval of Enver Pasha and came into force on September 12th, 1916.

The 3rd or Caucasus Army had its headquarters at Soushehri, and as reorganized consisted of six infantry divisions and a cavalry brigade, as follows :—

Army Corps.	Division.	Regiments.
1st Caucasus	9th Caucasus	17th, 28th, and 29th Caucasus Regiments.
	10th Caucasus	30th, 31st, and 32nd Caucasus Regiments.
2nd Caucasus	5th Caucasus	9th, 10th, and 13th Caucasus Regiments.
	11th Caucasus	18th, 33rd, and 34th Caucasus Regiments.
	<i>Independent Divisions.</i>	
	36th Caucasus	106th, 107th, 108th Regiments.
	37th Caucasus	109th, 110th, 111th Regiments.

## CAVALRY.

### 2ND CAVALRY BRIGADE.

The only Caucasus Division not included in the above is the 3rd, which was formed in March, 1918, and sent to the 9th Army. When, however, the reader studies the order of battle for the Islam Army he will find that mention is there made of the 1st, 2nd and 4th Caucasus Divisions. These have not been inserted in the above list for the following reasons. The Islam Army was formed from non-Ottoman Muhammadans, and although it was never a part of the Turkish regular Army it was organized on similar lines. The divisions composing it were all given the name of Caucasus Divisions, although only one of them, the 5th, which perhaps never actually joined the Islam Army, was a regular unit. The other three, namely the 1st, 2nd and 4th, were not really Caucasus Divisions at all, within the accepted meaning of the term, and corresponded roughly to the Imperial Service Troops of the Indian Army.

The following table shows (A) Caucasus Divisions proper and (B) Caucasus Divisions of the Islam Army.

A.		B.	
Divisions.	Regiments.	Divisions.	Regiments.
3	7	1	1
5	8	2	2
9	9	4	3
10	10		4
11	11		5
36	13		6
37	17		12
	18		14
	28		
	29		
	30		
	31		
	32		
	33		
	34		
	36		
	37		
—	—	—	—
7	17	3	8

*Expeditionary Forces and Groups.*—The Turks refer to an Expeditionary Force as a *Kouveh Seferiye*, and to a field detachment as a *Mufrezeh*. From the following list, which contains some of the principal of them, it will be seen that many formations of this type have been organized by the Turks during this great war.

*1st Expeditionary Force.*—Formed shortly after the general mobilization, from the 7th, 8th and 9th Regiments of the 3rd Division, and sent to the Caucasus and Persia at the end of 1914.

*Canal Expeditionary Force.*—Formed at the end of 1914 from part of the 10th Division. After the attack on the Suez Canal these troops were sent back to the Dardanelles, the 3rd Division, with some guns and cavalry, taking their places.

*Hejaz Expeditionary Force.*—At the outbreak of war, this consisted of the 22nd (Independent) Division. In addition to furnishing the garrisons of Mecca, Medina, and Taif, it was strung out along the Hejaz railway in the neighbourhood of Medina, but after the middle of 1915 it was withdrawn into the city itself. The bulk of this force was captured at the end of 1916, when its place was taken by the 58th Division. This latter consisted of the 42nd, 55th and 162nd Regiments, the 58th Artillery Regiment, an Engineer Company, about 30 machine guns, and no cavalry. The artillery consisted of two field and two mountain batteries. This division, under the command of Major-General Fakhreddin Pasha, was the last unit of the Turkish Army to surrender, and then only did so in January, 1919, by special command of the Sultan of Turkey.

*5th Expeditionary Force.*—Formed at the end of 1914 by taking a regiment from each of the three divisions of the 5th Army Corps. It was sent at first to the south-east of Van, and then to Selmas to protect

the right flank of the 3rd Army retreating from Sari Kamish. This force eventually became the 52nd Division.

*Turkey-in-Europe Force.*—This force, known to the Turks and Germans as the Rumeli Field Detachment, was formed towards the end of 1915, from the 177th Regiment, with two mountain guns and a squadron of cavalry, and was sent to Monastir early in 1916. At the beginning of 1918, the 177th Regiment was transferred to the 9th Army, whereupon the Turkey-in-Europe Force ceased to exist.

*The Amman Expeditionary Force.*—In March, 1918, when Marshal Liman von Sanders took over the command of the Palestine forces from Marshal von Falkenhayn, the 20th Army Corps was operating to the east of the Jordan. It was immediately sent across the river to hold up the attack towards Nablus. After this, a small force called the Jordan Group was sent to the east of the Jordan, the group being subsequently reinforced by a part of the 48th Division. The Turkish front, from the east of the Jordan right down to Medina, was known as the 4th Army front. With the object of holding Ma'an against the attacks of the Sherifial forces, all the troops along the Hejaz railway south of Dera'a were concentrated at Ma'an and designated the Ma'an Expeditionary Force. This title was soon changed to that of the Amman Expeditionary Force, which shortly afterwards, by a special order of the Yildirim Army Group, was turned into the 62nd Division.

*Mosul Group.*—Formed in July, 1916, from the 10th and 11th Regiments of the 4th Division, with the object of protecting Mosul from attack by the Russians. The Mosul group was partly destroyed and partly captured in September, 1916.

*Euphrates Group.*—An independent force, operating on the Euphrates under the direct orders of the 6th Army Commander. This arrangement was made because of the great difficulties of communication between the forces on the Euphrates and those on the Tigris. At first it consisted of the 156th Regiment, which was captured early in 1917. The 50th Division then formed the Euphrates group, but was captured in March, 1918, its place being taken by the 5th Division, to which was attached the 24th Regiment and a composite cavalry regiment.

*Tigris Group.*—After the fall of Baghdad the 14th Division became designated the Tigris group. It was captured on March 28th, 1918.

*Dates of the Formation and Disbandment of the nine Turkish Armies.*

Nº.	Date of Formation.	Date of first Disbandment.	Re-formed.	Finally Disbanded.
1st Army	5.8.14	17.2.18	24.9.18	11.10.18
2nd Army	5.8.14	18.11.14	5.12.14	15.12.18
3rd Army	5.8.14	—	—	15.11.18
4th Army	7.9.14	26.9.17	19.1.18	15.10.18
5th Army	25.3.15	—	—	21.11.18
6th Army	5.9.15	Still in existence in January, 1919.		
7th Army	12.8.17	—	—	13.11.18
8th Army	2.10.17	—	—	14.11.18
9th Army	9.6.18	Still in existence in January, 1919.		

It is now proposed to give the Turkish Orders of Battle at certain decisive stages of the war. It must be borne in mind that the information in the following pages is drawn entirely from Turkish sources, and that it does not in every case tally with our own. The compositions of the Islam Army and the 9th Army have also been added.

(1)

## BATTLE OF SARI KAMISH.

The strength and formation of the 3rd Turkish Army during the Sari Kamish fighting (*i.e.*, from December 26th, 1914, to January 5th, 1915) were as follows:—

1915) were as follows:

9th Army Corps 17th Division  
28th Division  
29th Division

At the time of the crossing of the Russo-Turkish frontier (*i.e.*, December 24th, 1914) this Army Corps with its three divisions comprised 18,000 combatants, but by the end of December, 1914, owing to the Bardiz and Sari Kamish fighting and the severity of the winter, the whole Army Corps had been reduced to 1,000 infantry, 40 mountain guns (of which one-half were damaged), and 16 machine guns.

10th Army Corps 30th Division  
31st Division  
32nd Division

Arrived in the Sari Kamish area on December 29th, 1914. On December 30th, 1914, the combatant strength of the 30th and 31st Divisions was reduced to 1,800 infantry, eight q.f. field guns, 16 q.f. mountain guns, and no machine guns. The 32nd Division was located partially at Bardiz and partially to the north of Yeni Keui. By the end of December the division had been reduced to 500 infantry, eight mountain guns, and three machine guns.

11th Army Corps 18th Division  
33rd Division  
34th Division

On January 3rd, 1915, this Army Corps was on the Medjingert-Altoun Bulak-Kelek line. On January 6th, 1915, the strength of the whole Army Corps was so reduced that it was found impossible to form a division out of the remnants of its three divisions.

13th Army Corps 37th Division

Took part in the operations along the Malazgert-Totak line.

Two regular cavalry divisions, *viz.*, the 2nd Regular Division and the 1st Mixed Division, consisting of the 1st Lancers and the 5th Regular Cavalry, also took part in the Sari Kamish fighting. Their total strength was about 6,000 sabres.

On January 2nd, 1915, the 9th and 10th Army Corps were combined under the name of the Left Flank Army.

(2)

#### BRITISH LANDING ON GALLIPOLI.

On April 25th, 1915, the strength and the formation of the 5th Turkish Army were as follows :—

3rd Army Corps	7th Division	}	Stationed on the Gallipoli Peninsula.
	9th Division		
	19th Division		
15th Army Corps	3rd Division	}	Stationed on the Asiatic side.
	11th Division		
5th Division	.. .. .		Was in reserve at Sharkeui, ready to move in any required direction.
Independent Cavalry Brigade	..		Guarding the coast from Examil to Enos.

The combatant strength of the 5th Army was then 62,077 of all ranks.

(3)

#### BRITISH EVACUATION OF GALLIPOLI.

On the night of December 19-20th, 1915, when the British Forces evacuated Suvla and Anzac, the strength and the formation of the 5th Turkish Army were as follows :—

##### *Saros Group.*

17th Army Corps	25th Division	}	Watching the coast from the north of Suvla up to Enos. The 25th Division had been with the 14th A.C.
	Independent		
	Cavalry		
	Brigade		

##### *Anafarta Group.*

16th Army Corps	9th Division
	11th Division
	12th Division
15th Army Corps	6th Division
	7th Division
	8th Division

##### *Northern Group (Anzac).*

3rd Army Corps	16th Division
	19th Division
	One division (not then numbered).

##### *Southern Group (Seddelbahr).*

14th Army Corps	1st Division
	14th Division
	15th Division
	20th Division

*Asiatic Group.*

6th Army Corps { 24th Division } Watching the Asiatic coast from  
 { 42nd Division } Kum Kale to Gaetli.

During the three weeks which preceded the British evacuation of Seddelbahr, six Turkish divisions were sent away from the Peninsula and 12 others were transferred from the Anafarta Group to the Southern Group. Before these changes were carried out, the combatant strength of the 5th Army amounted to 138,879 of all ranks.<sup>1</sup>

(4)

## FALL OF ERZEROUH.

On February 13th, 1916, the Russians commenced to attack Erzeroum, and on February 16th, 1916, they occupied the town. In this battle the composition of the 3rd Turkish Army was as follows :—

9th Army Corps { 17th Division  
 { 28th Division  
 10th Army Corps { 31st Division  
 { 32nd Division  
 { 34th Division  
 11th Army Corps { 18th Division  
 { 29th Division  
 { 33rd Division

Two Cavalry Divisions.

The combatant strength of the 9th Army Corps was 313 officers and 7,864 men. That of the 10th and 11th Army Corps was less in both cases.

(5)

## CAPTURE OF KUT-EL-AMARA.

The strength and the formation of the 6th Turkish Army on the date of the capture of the town (April 29th, 1916) were as follows :—

13th Army Corps { 2nd Division  
 { 35th Division  
 { One Independent } Located to the east of Kut-  
 { Cavalry Brigade } el-Amara.  
 18th Army Corps { 45th Division Round Kut-el-Amara.  
 { 51st Division }  
 { 52nd Division } East of Kut-el-Amara.  
 6th Division { Was under the orders of the 6th Army and was  
 { partially engaged in the firing line against the relief  
 { force east of Kut-el-Amara.  
 Baghdad Group { Was withdrawn from Persia to Khaniqin on  
 { account of the pressure of the Russians.

<sup>1</sup> The Turkish Ministry of War state that their total casualties in Gallipoli were 289,000, i.e., 2,160 officers and nearly 287,000 other ranks. These figures seem very high.

The total combatant strength of the 6th Army was then 35,313 of all ranks.

(6) FALL OF ERZINJAN.

On July 1-2nd, 1916, the Russians commenced to attack with much superior forces, and on July 24th, 1916, Erzinjan was evacuated for strategical reasons. The 2nd and 3rd Turkish Armies took part in this fighting.

*Formation and Strength of the 2nd Army :—*

2nd Army Corps	11th Division
	12th Division
3rd Army Corps	1st Division
	7th Division
	14th Division
4th Army Corps	47th Division
	48th Division
16th Army Corps	5th Division
	8th Division

The total combatant strength of this army was then 17,474 of all ranks.

*Formation and Strength of the 3rd Army :—*

5th Army Corps	9th Division
	10th Division
	13th Division
9th Army Corps	17th Division
	29th Division
10th Army Corps	30th Division
	31st Division
	32nd Division
Kemakh Group	28th Division
	36th Division

Two Cavalry Divisions.

The total combatant strength of this army was then 27,231 of all ranks.

(7) FALL OF BAGHDAD.

Baghdad fell on March 11th, 1917. The formation and strength of the 6th Turkish Army at that time were as follows :—

13th Army Corps	2nd Division	This Army Corps was retiring from Persia with its advance guard at Khaniqin and its rear guard at Makdesht.
	6th Division	
	One Independent Cavalry Brigade	



The total combatant strength of these armies was then 32,403 of all ranks.

(10) SECOND BATTLE OF GAZA.

The second Battle of Gaza took place in November, 1917. The formation and strength of the 8th Turkish Army at that time were as follows :—

20th Army Corps	{ 16th Division plus a detachment	{ At Kharabeh Abou Djerah.
22nd Army Corps	{ 3rd Division 7th Division 26th Division 54th Division	{ Was strung out along the coast as far as Kharab-el-Bab.
27th Division		{ At Beersheba.
3rd Cavalry Division		{

The total combatant strength of this army was then 29,118 of all ranks.

(11) FALL OF JERUSALEM (December 9th, 1917).

The formation and strength of the troops which took part in this fighting were as follows :—

8th Army (Yildirim Army Group).		
22nd Army Corps	{ 3rd Division 7th Division 20th Division	{ Occupying a line from the north of Jaffa up to Haifa.
Asiatic Group	{ 16th Division 54th Division	
7th Army (Yildirim Army Group).		
3rd Army Corps	{ 19th Division 24th Division	{ North of Jerusalem.
20th Army Corps	{ 26th Division 53rd Division	{ East of Jerusalem.
3rd Cavalry Division	.. ..	{ In El-Bura area.
4th Army.		
8th Army Corps	{ 43rd Division 48th Division A Detachment A Detachment 58th Division (Hejaz E.F.)	{ At Maalka Aliya. At Amman. At Amman. At Tebuk. In Medina.
12th Army Corps	{ 23rd Division 41st Division 44th Division	{ At Mersina. Between Antakia and Bilan. At Toprak Kale.

The total combatant strength of these armies was 45,628 of all ranks.

(12)

## FORMATION OF THE ISLAM ARMY.

The Islam Army was formed on March 3rd, 1918, its composition being as follows :

1st Caucasus Infantry Division	{ 1st Caucasus Regiment. 2nd Caucasus Regiment. 3rd Caucasus Regiment.
2nd Caucasus Infantry Division	{ 4th Caucasus Regiment. 5th Caucasus Regiment. 6th Caucasus Regiment.
3rd Caucasus Infantry Division	{ 7th Caucasus Regiment. 8th Caucasus Regiment. 11th Caucasus Regiment.
4th Caucasus Infantry Division	{ 12th Caucasus Regiment. 14th Caucasus Regiment.
1st Caucasus Cavalry Division	{ At first this consisted of the 2nd and 3rd Caucasus Cavalry Regiments, but on September 15th, 1918, the 4th Caucasus Cavalry Regiment, which had just been formed, was added to this division.

(13)

## FORMATION OF THE 9TH ARMY.

The 9th Army was formed on June 9th, 1918. The headquarters of this army were formed from the 2nd Caucasus Army Corps headquarters.

*Formation and Strength of the 9th Army.*

1st Caucasus Army Corps	{ 10th Caucasus Division. 11th Caucasus Division. 15th Division.
4th Army Corps	{ 5th Caucasus Division. 36th Caucasus Division. 12th Division.

On June 20th, 1918, the 36th Caucasus Division was transferred to the 3rd Army. The 9th Army was thereupon re-formed as follows :—

1st Caucasus Army Corps	{ 5th Caucasus Division. 11th Caucasus Division. 12th Division.
4th Army Corps	{ 9th Caucasus Division. 10th Caucasus Division. 15th Division.

After the re-formation, the total combatant strength of this army was 25,354 of all ranks.

# THE SUPREME WAR COUNCIL OF THE ALLIED AND ASSOCIATED NATIONS.

## ITS ORIGIN, ORGANIZATION, AND WORK.

By BREVET LIEUT.-COLONEL R. H. BEADON, C.B.E., R.A.S.C.

UP to the present time very little has necessarily been able to appear publicly concerning the inter-Allied organization at Versailles known as the "Supreme War Council," and it is probable also that details of the larger portion of its work will never be made known outside a comparatively limited circle, for similar reasons that the ramifications of a Government Department such as the Foreign Office seldom in all their fullness see the light of day. But on such information as was possessed by its critics there have been few organizations that have been such a target for criticism. It is not the purpose here to answer these criticisms except in so far as the general ideas of the functions and work of the Supreme War Council are in themselves an answer, but rather to present some few facts which are not in themselves uninteresting or uninformative.

### THE ORIGIN AND FUNCTIONS OF THE SUPREME WAR COUNCIL.

The necessity for the creation of some such body as the Supreme War Council had been foreseen and suggested by the late Lord Kitchener early in 1915, but it was not, however, till two years later that circumstances rendered it imperative to carry the idea into practice. The strategical surprise effected by the Germans against the Italian Army, with the consequent reverse sustained by the latter, brought matters to a head, and it became evident that a very much closer co-operation was necessary for a successful prosecution of the war by the Allied nations.

As far as the Central Powers were concerned, the mind of Germany dominated their military policy and gave it effective coherence and meaning. Germany was, however, accepted as the predominant partner because her contribution was far greater than any of her partners.

The efforts of the Allies, each of whom was individually exerting his uttermost strength, on the other hand, lacked co-ordination, and the intermittent conferences between the heads of the various States, though enabling many differences and divergencies of opinion to be smoothed over, could not ensure close and continuous working on common plans that should meet with the approval and agreement of all. Such plans could only be ensured by regular and frequent counsel together between the heads of the various Governments allied and

associated together against the Central Powers. It was obviously impracticable that all could participate, as several of the minor States at war with Germany and her Allies were taking no active part in the war at all, and others but a very small one which, even proportionately, was in no way commensurate with the efforts made by England, France, Italy, and subsequently were to be made by America, whose adhesion in the spring of 1917 promised to be the decisive factor, were the war to be continued another eighteen months or two years. The United States was, in fact, at that period the great reserve force of the Allies, and though their assistance up to that time had been confined to moral, financial, and material support, their development as a military Power was already taking shape, and the advance guard of their armies had even then arrived in Europe. Very naturally they were therefore invited to participate from the beginning, though they had not been represented at the initial meeting at Rapallo on November 7th, 1917.

The only other Great Power technically at war with Germany and her Allies was Russia. There the unrecognized Communist Government was in power with the avowed object of making peace at the earliest date, and it was therefore obviously impossible that overtures could be made to them to participate.

The smaller nations were ignored as far as permanent representation was concerned, though provision was made for the attendance of any of their representatives when occasion demanded.

The agreement arrived at at Rapallo provided that the Supreme War Council should consist of two representatives from each of the Great Powers, the Prime Minister, and one other Minister of Cabinet rank. It was thus primarily a political and not a military body, its object being to secure such adjustment and co-ordination of national policies as would make possible the execution of a single, comprehensive strategic plan of Allied operations. The working out of such a plan on broad lines in its technical military aspect was assigned to permanent military representatives, who would have at their disposal both the information in possession of, and the separate plans put forward by, the several General Staffs, but details were, of course, to be left to the Commanders-in-Chief on the several fronts. Other advisers on the various technical aspects of the war were to be called in as required. It was contemplated that the full Council should meet, if possible, at least once every month, the military representatives being, on the other hand, in continued session.

To give effect to the above scheme the following resolutions were adopted:—

I. The representatives of the British, French, and Italian Governments, assembled at Rapallo on November 7th, 1917, agree on the scheme for the organization of a Supreme War Council with a permanent military representative from each Power.

II. *Scheme of Organization of a Supreme War Council.*—

(1) With a view to the better co-ordination of military action on the Western Front a Supreme War Council is created, composed

of the Prime Minister and a member of the Government of each of the Great Powers whose armies are fighting on that front. The extension of the scope of the Council to other fronts is reserved for discussion with the other Great Powers.<sup>1</sup>

(2) The Supreme War Council has for its mission to watch over the general conduct of the war. It prepares recommendations for the decision of the Governments, and keeps itself informed of their execution and reports thereon to the respective Governments.

(3) The General Staffs and Military Commands of the armies of each Power charged with the conduct of military operations remain responsible to their respective Governments.

(4) The general war plans drawn up by the competent military authorities are submitted to the Supreme War Council, which, under the high authority of the Governments, ensures their concordance, and submits, if need be, any necessary changes.

(5) Each Power delegates to the Supreme War Council one permanent military representative, whose exclusive function is to act as technical adviser to the Council.

(6) The military representatives receive from the Government and the competent military authorities of their country all the proposals, information, and documents relating to the conduct of the war.

(7) The military representatives watch day by day the situation of the forces, and the means of all kinds of which the Allied armies and the enemy armies dispose.

(8) The Supreme War Council meets normally at Versailles, where the permanent military representatives and their staffs are established. They may meet at other places as may be agreed upon, according to circumstances. The meetings of the Supreme War Council will take place at least once a month.

The above resolutions make clear that the Supreme War Council was in the first place a political and not a military body. The only actual members were to be the Prime Ministers of three Great Powers; in the case of the United States such adviser as might be designated by the President; and also one other Cabinet Minister. As this second Minister need not always be the same Minister, the Supreme War Council was in substance to be a Council of Prime Ministers, *i.e.*, of

<sup>1</sup> The representatives of the Great Powers attending the Rapallo meeting were as follows:—

*For Great Britain*—Mr. Lloyd George, Lieut.-General Smuts, General Robertson, and General Sir Henry Wilson.

*For Italy*—Baron Sonnino.

*For France*—M. Painlevé, M. Franklin-Bouillon, M. Barrère, General Foch, General Gondrecourt, and General Weygand.

*Secretaries*—Lieut.-Colonel Hankey, Count Aldrovandi, and Commandant Helbronner.

As regards the United States of America, arrangements were made for Mr. A. H. Frazier, Counsellor of Embassy, American Embassy, Paris, to attend meetings of the military representatives pending the appointment of an American military representative. Mr. Frazier, however, was merely to hold a watching brief on behalf of the United States of America.

In January, 1918, General Tasker H. Bliss took up his duties at Versailles as Permanent Military Representative, American Section, Supreme War Council.

the men who have the final decision on all questions of policy and action in their respective countries. Once these were agreed on a policy they were in a position to carry it out, assuming always they retained the support of their colleagues and their Parliaments.

"The Supreme War Council was thus to be an instrument for arriving at a common policy in the conduct of the war. It was not to be an instrument for carrying out that policy. It was, however, designed to be far more efficient than the periodical conferences between the Governments which had been carried on at intervals throughout the war. But, constitutionally speaking, it was on the same footing as these conferences. The Council could not by a mere majority decision compel one of the Governments represented to carry out a policy of which it disapproved. Nor had it any field of executive authority of its own apart from the executive authority of the Governments represented, which remained as it was before. Its creation had not altered anything in the constitutional position and responsibility of the Governments taking part in it or of any organ of these Governments. In this respect the best parallel to the Supreme War Council known to British constitutional practice was the Imperial Conference, a body whose object was to promote identity of policy and co-operation among the different Governments of the British Empire without in any way affecting their constitutional autonomy.

"But, as was obvious under the stress of the urgency of war, the Supreme War Council had to develop from the outset certain machinery for securing its own continuity and the proper presentment to it of the subject matter of its discussions. In the first place the continuity of its working was to be largely maintained during the interval between the monthly meetings by frequent visits on the part of the second Minister, who, as a member of the Supreme War Council, and acting in full touch with the Prime Minister, should be able to maintain informally that direct personal contact between the heads of Governments which was the essence of the idea which underlay the whole fabric.

"A very important portion of the machinery lay in the appointment of a body of permanent military representatives, one for each Power, whose duty it was with staffs to assist them in their work, to study the whole military situation in the light of all the factors that affected it and to submit collective, reasoned conclusions to the Supreme War Council which were considered and, if accepted, translated into action by the Governments concerned."

#### ORGANIZATION OF THE SUPREME WAR COUNCIL.

The scheme for the organization of the Supreme War Council as adopted at Rapallo was translated into action as follows:—

1. *Permanent Military Representatives.*—Each Power delegated to the Supreme War Council one permanent military representative, whose exclusive function was to act as technical adviser to the Council. Each military representative was to receive from his Government and the competent military authorities of his country all the proposals,

information, and documents relating to the conduct of the war, and to watch day by day the situation of the forces and the means of all kinds of which the Allied armies and the enemy armies disposed. The offices of the permanent military representatives were established at Versailles: and for this purpose the Trianon Palace Hotel was requisitioned and placed at their disposal by the French Government.

The following military representatives were appointed and took up their duties at Versailles at the end of November, 1917:—

France: General Weygand.

Great Britain: General Sir Henry Wilson.

Italy: General Cadorna.

For the United States of America General Tasker Bliss took up his duties in January, 1918.

In order to enable the military representatives to carry out the duties allotted to them as above defined, it was decided at the second session of the Supreme War Council, held at Versailles on December 1st, 1917, that they should be provided with all the necessary documentary and other information. And, in order to facilitate the reception and distribution between the Allied representatives of this information, that each section of the Supreme War Council was to comprise a permanent secretarial staff.

In addition to the exchange of papers and information, which went on continuously, it was decided that formal meetings of the military representatives should take place at frequent intervals.

As regards the procedure to be followed at these meetings, it was decided at the third meeting of the military representatives held at Versailles on Wednesday, December 12th, 1917, that at each sitting of the military representatives one of the military representatives should act as chairman of that particular sitting and direct its proceedings. In practice each military representative was asked to take the chair in turn, following the order of entry of the four countries represented into the war.

It was also decided that the advice tendered to the Supreme War Council by the military representatives should take the form of joint Notes. It was agreed that joint Notes should be signed by all the military representatives and sent by each section of the Supreme War Council to the heads of their respective Governments.

On February 28th, 1918, the military representatives passed the following further resolution:—

“After a brief exchange of views, the military representatives decided that, in cases of emergency, three military representatives would constitute a quorum, and that the absent military representative might be represented by his Chief-of-Staff, who could in such case sign for him.”

Further, at the thirty-first meeting of the military representatives, held on May 19th, 1918, the following resolution was adopted:—

“The Military representatives decided that joint Notes must represent the unanimous opinion of the military representatives, and will be signed by each of the four representatives.”

The first meeting of the military representatives was held in the Council Chamber, Versailles, on December 4th, 1917, at 3.30 p.m., and between that date and November 12th, 1918, fifty-one meetings took place. At these meetings a variety of questions were formally discussed, and unanimous decisions were reached on a variety of different subjects. The decisions, which represented the unanimous advice of the military representatives to their Governments, were, as stated above, expressed in the form of joint Notes.

2. A Naval Liaison Committee constituted the necessary link between the military representatives and the Inter-Allied Naval Council sitting in London.

3. Dependent on the military representatives were the Inter-Allied Technical Committees on Aviation and Tanks. These committees, besides affording opportunities for interchange of views on the organization and development of these more modern branches of military science, also acted as first-hand technical advisers on subjects either referred to them by the military representatives or initiated by themselves. Their recommendations were either embodied in the joint Notes submitted to the Supreme War Council, or were forwarded to the authorities concerned.

(a) *Inter-Allied Aviation Committee.*

This Committee was created by joint Note No. 7 of January 8th, 1918.

The first meeting took place on May 9th, 1918, at Versailles. In the course of various sittings this Committee studied and unified—

- (1) The future programme of inter-Allied aviation.
- (2) The creation of an inter-Allied long-distance bombing force.

(b) *Inter-Allied Tank Committee.*

This Committee was created by joint Note No. 9 on January 8th, 1918.

This Committee, the first meeting of which took place on May 6th, 1918, drew up and secured acceptance to a construction and organization programme for this entirely new arm.

4. The Inter-Allied Transportation Council acted in an advisory capacity in supplying information regarding transportation problems confronting both the Allies and the Central Powers.

This Council, created by joint Note No. 8 of January 8th, 1918, received freedom of action from the Supreme War Council, and was made an executive body not dependent on the latter.

In close liaison with the military representatives it improved the output of lines of communication, especially those with Italy, and brought about a better use of various inter-Allied rolling stock.

5. *The Organization of the British Section.*—The British Section of the Supreme War Council, formed in November, 1917, consisted of a small number of officers specially selected and representative of every combatant branch of the Service to serve on the Staff of the British military representative. The organization of this Staff, as designed by Sir Henry Wilson, was drawn up on a new system.

For, instead of being framed on the usual organization under which a Staff is divided into sub-branches dealing severally with General Staff, Adjutant-Generals' and Quarter-Master Generals' questions, Sir Henry Wilson divided the British Section into three main branches, known as "A" (Allied and neutral), "E" (enemy and neutral), and "M" (man-power and material, Allied and enemy). The advantages of adopting this system of division for Versailles are apparent, when it is remembered that the military representative's Staff acted merely in an advisory capacity, and that the rôle of this Staff was not to frame and issue orders, nor to perform executive duties in any way, but to appreciate the possible effects of the adoption of courses open to the Allies or to the enemy in any theatre of operations, and generally to forecast and study the strategic situations likely to arise in the future.

A short description of the nature of the work of each branch illustrates the working of the system.

"A" (*Allied and Neutral*).—In this branch the situation of the Allied forces on all fronts was kept up to date, and the military aspect of the strategic situation, as visualized by an imaginary Supreme Commander, was repeatedly summarized and revised. Did the enemy branch prepare an offensive on any front (on paper), the Allied branch countered this by suggesting means by which such an offensive could be met. Owing to the gigantic extent of the world war, the problems, even if only treated from the broadest of aspects, were exceedingly intricate. The branch was sub-divided so that different officers specialized in the several theatres.

"E" (*Enemy and Neutral*).—The problems arising from the situations on the various fronts were presented by "E" branch entirely as if originating from the enemy High Command. Papers were produced dealing with the possibilities of successful action on the several fronts, as if drawn up by the enemies' Staff. Consequently the adversaries were working mentally against each other, and the view of a strategic situation which is apt to be formed if the same heads worked out the problems from both points of view, was avoided. "E" branch, like "A," was sub-divided for specialization in the several theatres.

"M" (*Man-Power and Material*).—This branch was divided into three sub-branches; the first dealing with Allied and enemy man-power problems, the second with munitions questions, and the third with supply and transport and transportation considerations.

By "M" branch were issued periodically "strength returns," Allied and enemy, on all fronts, compiled from information obtained from the War Office, G.H.Q's., and the Allied sections of the Supreme War Council. These included estimates of numbers of personnel, guns, machine-guns, aeroplanes, tanks, etc.

One of the most important items of the work carried out by "M" branch was the consideration of the train capacity of the various railways, Allied and enemy, in order that the rate of reinforcements of the several fronts could be calculated for the operations proposed by

"A" and "E" branches. For this work, most valuable assistance was afforded by the members of the Inter-Allied Transportation Council.

*Political Branch.*—This branch studied the political situation in all countries and issued weekly appreciations from Allied and enemy points of view.

In order to keep the military representative posted with the military and economic situation in all theatres of war, as well as in neutral countries, weekly summaries of information were issued by all branches of the Staff, dealing with the particular subjects dealt with by the branches or sub-branches. Exchange of information was constant between the Allied sections. Representatives of the Staff attended the meetings of the inter-Allied councils and committees on man-power, aeroplanes, tanks, supplies, and munitions.

6. *Organization of the French, American, and Italian Sections.*—

(a) The French section, which was composed originally of some twelve officers, was divided into three sections—Western section, Eastern section, and Economical and Political section.

(b) The American section followed the lines of the British section.

(c) The Italian section was not divided upon the above lines, but worked as a whole.

7. *Joint Secretariat.*—The permanent secretarial staffs of the respective countries in concert organized a joint secretarial bureau for the production and distribution of the notices, agenda, protocols, and *procès-verbaux* of the meetings of the Supreme War Council and other collective business.

THE WORK OF THE SUPREME WAR COUNCIL.

Even retrospectively it is not easy to estimate fully the value of the work accomplished by the Supreme War Council during its existence. It is certain that such estimation cannot be effected by a mere detailing of the questions that were considered and the decisions arrived at. It is important to go beyond these in indicating what cannot be recorded in tabulated or statistical form on paper—not only because such factors are liable to be overlooked, but rather because they were none the less vital to the end in view—one mind for the Allied nations.

Like every innovation, the Supreme War Council was the subject of much criticism. On the one hand was the point of view that its existence would interfere with the authority of the several commanders-in-chief in the field, which it would tend to weaken, and therefore threaten the freedom of action of the Governments they represented.

On the other hand it was urged that the powers of the Council and its military advisers did not go far enough to ensure real utility, in that no executive authority was vested in it by a majority vote, and that it therefore could in fact fulfil no rôle that could not be fulfilled by the system of periodical conferences in which the heads of the various Governments had up to that time participated when

they were dependent for their military advice on their respective Chiefs of Staff in their Ministries of War for the equivalent.

The first of these criticisms overlooked the fact that there was practically no parallel for the circumstances of the Grand Alliance—not only from the number of nations involved and the extent and vastness of the struggle, but from the complexity of the issues which were growing more and more intricate as the war progressed. To meet an unprecedented situation, in fact, unprecedented measures were necessary.

As regards the argument that the powers of the Council were not wide enough, it must be remembered that, unlike the Central Powers, no one nation was the admitted leader of the Grand Alliance, but all were equal partners as far as the Great Powers participating were concerned. The minimum interference with the rights and interests of each by the others was necessarily aimed at and the evils of over-centralization fully taken into account.

Compromises—for the Supreme War Council was a compromise—are never ideal, but they are often eminently practical in that they not only serve the needs of the hour but are in themselves evolutionary in their very essence.

This is clearly shown by the steps that eventually led to the appointment of a Supreme Commander-in-Chief for the Western Front. The idea of unified command in the most important theatre had long been considered and generally, in view of difficulties that need not be discussed here, dismissed as impracticable. Yet, looking back, it is clear that such command was inevitable, and no one now would admit but that it was right. The arguments against it were necessarily political—certainly no reasons definitely military could be advanced. Politics must, however, dominate war in its highest sense—as war is, in fact, only a continuation of politics by other means. And, therefore, until the political objections could be overcome the operations of the Allied armies in the Western theatre were handicapped against an enemy with one single purpose and one single will.

Just as the necessity for closer inter-Allied co-operation in the shape of a Supreme War Council was demonstrated by the reverse sustained in the Italian theatre in the previous October, so was the necessity for a still further step made clear by the reverse sustained in the French theatre in the following March.

The logical outcome of a Supreme War Council was a Supreme Commander-in-Chief (in each of the minor theatres where Allied troops were co-operating he already existed).

If the Supreme War Council never fulfilled any other purpose than that of a mere stepping stone to unified command—subsequently so brilliantly justified by results—it would have more than rewarded those who were responsible for its creation. Nor is there anything to show that the unified command could have been accomplished by any other means than by a body as had by its very existence prepared public opinion for such measure; and further, at the very crisis of the war was able to impose it.

Of the subjects and volume of the questions dealt with by the Supreme War Council, two may be cited as examples of how complete and rapid unity was attained among the Allies at critical moments.

The first of these was the decision taken at the fifth session, in May, 1918, as regards the transportation of American troops.

By this the American Government, putting aside for the moment the question of building up a complete and self-contained American Army in France as had been the original intention, agreed to give absolute priority during the months of June and July to the transportation of combatant troops and men for the service of the railways. The numbers fixed were 170,000 combatant troops for the month of June and 25,400 men for the service of the railways. For the month of July 140,000 combatant troops. This sacrifice on the part of the United States Government of the national aspirations for the common good was met by one even greater in its way by the British Government, which, in spite of the very serious shortage then existing, turned over sufficient shipping to carry some 60 per cent. of the American troops to Europe.

The second instance that may be cited lay in the acceptance by the Supreme War Council of the recommendation made by the military representatives as regards an offensive in the Balkan theatre at the seventh session, in July, 1918, as a consequence of which all preparations were made in agreement among the Allies. The offensive took place in September, and resulted in the surrender of Bulgaria on the 29th of that month, which was an important factor in convincing the remainder of the enemy of the futility of further resistance. The success of the Balkan offensive may without exaggeration be said to have been largely responsible for the end of the war by 1918.

Nor is it easy to see how such an extensive and well-planned series of operations could have been carried out by the heterogeneous forces comprising the Allied armies in that theatre had not the inspiration come from common counsel and common agreement above.

Beyond the definite steps taken and the tasks accomplished there was what has been touched on previously—the results that are not apparent on the surface. The Supreme War Council was in its conception and genesis an attempt to “get together” on the part of the Allies and to find common ground, and so to evolve a united policy for pursuance of the war.

Such “counsel of perfection” could never probably in any Alliance be fully realized. Yet it is impossible to believe that the Allies could have marched so far on that road together as they eventually did without some common meeting ground.

Up to the time of the formation of the Supreme War Council the only common strategy they had lay in their aims to beat the enemy. Yet, as has been expressed in a paper written in the British Section at Versailles, beating the enemy was “really a negative conception” in that it implied that this was the only way to prevent him beating them, and that therefore the idea was fundamentally defensive, not constructive.

It was essential to go beyond this if the maximum effort of the Allies was to be exerted and to reach a more extended basis of agreement, which could be moulded into offensive efforts with definite coherence and meaning.

If Versailles had been no more than an inter-Allied clearing house and a meeting place where the Allied Staffs could exchange ideas it would have justified its existence, for it contained under one roof the Staffs of the four Great Powers in the Alliance working constantly and continuously together. The broadening influence in the mind of such association cannot be over-estimated. Indeed, it is so obvious it need not be enlarged upon.

Criticism has not been wanting that the co-operation between the Allies, even despite these considerations, never became sufficiently close. But interference with the internal affairs of each or any was always to be deprecated. It was the products of the national efforts of each that required to be co-ordinated, and not the ways by which these products were obtained. For each one of the Allied nations had developed and grown great on its own particular lines, and it would have been unnatural to have attempted to standardize them.

Versailles did give those associated with it a supremely useful experience and a broad inter-Allied view which were subsequently of great value to the Allied cause.<sup>1</sup>

Lastly, the Supreme War Council at Versailles formed a precedent, and this fact, together with the experience gained by its actual working, should not be lost sight of for future eventualities.

If the Grand Alliance or any such similar one should ever again be called into existence—and the treaty made by both Great Britain and the United States to defend France once more against an unprovoked attack by Germany shows the possibility—then similar work and similar tasks would be necessitated once more.

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<sup>1</sup> This is especially emphasized when the subsequent rôles of many of the officers who served in the military sections there are recalled. For example:—

General Sir Henry Wilson left to become Chief of the Imperial General Staff.

General F. H. Sykes left to become Chief of the Air Staff.

General Sackville-West subsequently became Chief of the British Military Delegation to the Peace Conference.

Lieut.-Colonel Lord Stanhope left to become Under Secretary of State for War.

Lieut.-Colonel Amery, M.P., left to become Under Secretary of State for the Colonies.

In the French section General Weygand, who was the French military representative until March 26th, 1918, went with General Foch as his Chief of Staff when the latter was appointed Commander-in-Chief on the Western Front.

General Bliss, the American representative, afterwards became one of the American plenipotentiaries at the Peace Conference.

## MILITARY EDUCATION.

By COLONEL SIR T. H. HOLDICH, K.C.M.G., K.C.I.E., C.B.

WHEN war burst upon us five years ago our deplorable condition of unpreparedness must have made us a byword amongst the nations. We had no army adequate to the strain of a Continental campaign; we had no munitions of war with which to carry on such a campaign; and, had we possessed both the army and its proper equipment, we had no General equal to the command of more than a few thousand men. Great Generals, like great cricketers, must have training and experience in the field before they can prove themselves great, and although the want of experience in the command of Continental armies was due to circumstances and conditions which were beyond our control, the want of training was quite unnecessary, for it was due to a want of system in our methods of military education. We know now, by experience (and we ought to have known without the necessity for that experience), that a great General must have not only a knowledge of the proper use of every arm of the service and be free from a personal bias in favour of any one arm, but he should be well acquainted with the character and idiosyncrasies of all the varied national units (European and native alike) which may be combined into one great army under his command. It may be said that good Generals, like good poets, are born, not made. This is undoubtedly true, but the untrained innate genius for war may be long in asserting itself if it is handicapped by competition with the manufactured article starting with a reputation derived from military scholarship only. It is earnestly to be hoped, now that a cessation from the strenuous activities of war has supervened, that a thorough revision of all the old methods may eventuate in a reasonable system for the adaptation of the best raw material to the best educational process which can be devised. Regarding the raw material, can we say that the best of it is at present utilized for the purposes of securing ability in high command? For it is this ability for the command of men that should be the first and foremost object in all military education. We all know that there is at present an unfortunate tendency to separate the different branches of the Service—Artillery, Engineers, Cavalry, Infantry (to which we may add the Flying Service)—into separate compartments, and to make them so watertight that a young officer drafted into any one of them has, in his scholastic experiences, but little knowledge of the rest, and is disposed to believe that the one arm of which he is a junior member is the only one really worth consideration. This may foster a certain *esprit de corps*, but it is an *esprit* which in after years, when competition for the higher military

commands or appointments is in question, is apt to breed regimental and corps jealousies, and to lead to anything but that mutual understanding and confidence in each other which is so essential for success in the active field of a campaign. This is, perhaps, the chief and most mischievous result of our present system of military education, and its mischievous results are observable in many ways. One of these ways concerns the all-important primary selection and training of the most promising material for the final command of armies. To take the case of the Royal Engineers (with which I am most familiar) as an example. The Royal Engineer is the representative of the ablest brain power that can be secured by a process of competitive examination for military service. That is, of course, a general statement to which exceptions may be found under certain special conditions, which apply chiefly to the Royal Artillery. But, as far as competitive examinations can prove anything, the R.E. stands in much the same relative position to the rest of young army officers as the Wrangler to the rest of Cambridge undergraduates who take part in the same examination. It would be quite reasonable, therefore, to expect to find amongst the cadets selected for commissions in the R.E. the first great asset essential to any man who aspires to high command, i.e., that of exceptional brain ability. It is unnecessary to say anything about physical capacity, for it is notorious that there is as good an average of personal strength and activity in the corps as in any other branch of the Service. And yet, from the moment he gets his commission, the R.E. is earmarked for special service and surrounded with a technical ring fence over or beyond which he finds it exceedingly difficult to climb if his ambition lies in the direction of soldiering. His special service doubtless requires special ability and special training, but my point is that the highest form of special service, which is that of generalship, is not really within his reach. He is not educated for it, and he is during the process of education kept carefully within his own lines. He makes no acquaintance with other branches of the Service unless in later years he is fortunate enough to be one of two or three (out of a list of many hundreds) to enter the Staff College. Even then he may be too late. Critics will doubtless say that there have been quite enough R.E. Generals in the field, and that their generalship is not always a success. They might go further and say that it never can be a success under present conditions. An R.E. officer may finally drift from his military career into all sorts of civil appointments demanding ability and energy of a high order. He may be perfectly happy in such positions; his civil rôle being far better financially than that of most of his compeers at his age. But this is not what he joined the Army for, nor is it good business for the Government who have been put to considerable expense for his training. It is, in fact, a most wasteful system if regarded only from the business point of view. Yet it is only by the grace of good luck here and there that he can make good his ambition to be first of all a good soldier and finally rise to high positions of command. What wonder that when he attains that position he finds that somehow he has missed acquiring the very first

principles of the art of war, and is asked to become a strategist without ever having practised the principles of strategy, or made even slight acquaintance with those other branches of the Service on whose wholehearted co-operation all his success depends. He may be a natural genius at organization, a man of iron will and determination, and possess the faculty of creating immense confidence in himself; but he cannot be a great General if in practice as well as theory he has not early studied the art of generalship, and he is likely to find himself very cordially detested by those who regard him as an interloper because he has not learned his business technically or been recognized as a fellow soldier. What appears to be wanted is a *military university* where young officers of all varieties of service would rub shoulders together and learn as much from each other as in the military schools and colleges.<sup>1</sup> Only thus will silly prejudices and jealousies be removed (as they were in the Indian Army when all Indian officers were educated together in the one college at Addiscombe), and only thus will a full appreciation of the best man of his time be secured which will prove of inestimable value in the hearty goodwill and support which he will get, not only from the few who know him intimately, but from the many who have the same opportunity of appraising his character as the undergraduate of to-day possesses in regard to the captain of the university eleven or a "double first." I have taken the case of the Royal Engineer because I happen to have served in the corps; but, *mutatis mutandis*, there is just as much to be said in favour of this university system as applied to the Artillery (indeed especially to the Artillery), or to any other branch of the military service which leads to a career of a highly technical character tending to a separation of those interests which should be mutual.

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<sup>1</sup> A certain community in the final examinations for commissions also seems desirable.



## THE DARDANELLES, 1807 AND 1915. A STRATEGICAL PARALLEL.

By MAJOR-GENERAL W. D. BIRD, C.B., C.M.G., D.S.O.

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IT often results from the comparatively fixed conditions of our existence, combined with the apparent stability of national characteristics, that similar problems are solved on similar lines by succeeding generations of men. And, if generally true of other affairs, this statement is surely of more precise application to the strategical operations of war.

Strategy is to a great extent an affair of motion, and motion is, in its turn, largely governed by the constant factors of physical geography. For, since international communication is maintained principally over the seas of the world, which are still its main avenues of approach, or by roads and railways whose course is to some extent fixed by mountains, rivers, marshes, and deserts, these cannot fail to exercise a compelling pressure on military movements. As a result the same strategical situations will not infrequently arise in the course of naval and military operations, and though their solution will continue to be influenced by national temperament, the operations of war, as noted by the Duke of Wellington, will always tend to follow certain well-beaten tracks.

A review of the strategical situations in the winter and spring of 1806-1807 and 1914-1915 may serve to illustrate these contentions.

The treaty of Pressburg, which followed Napoleon's victory at Austerlitz, in 1805, over the combined Austrian and Russian forces, left England alone of the Great Powers at war with France. The treaty had, however, not been strictly observed by the Czar, and Cattaro, on the Adriatic, which had been ceded to France, was occupied by the Russians and Montenegrins in March, 1806. Napoleon, therefore, despatched an army corps, under Marmont, into Dalmatia to occupy Ragusa and enforce his rights. At the same time General Sebastiani was sent on an embassy to Constantinople for the purpose of extending French influence over the Turks, and, if possible, also to afford occupation for the armies of the Czar by fomenting a rupture between the Turks and Russians.

Meanwhile, to secure his position on the Continent, Napoleon formed, in July, a Confederation of the Rhine, under which France, Bavaria, Würtemberg, Baden, and a number of minor German principalities entered into an offensive and defensive alliance.

This move, which involved the abolition of the Germanic Confederation known as the Holy Roman Empire, gave great offence to Prussia, who was also alarmed at Napoleon's offer to restore to England Hanover, which had been annexed by the Prussians on

April 1st, 1806. In October, therefore, having secured the adhesion of Russia and Saxony, the Prussians joined England, and war was declared on France.

Napoleon was the last man to give the Allies time to concentrate an overwhelming force against him, and, as the dispositions of the Prussians and Saxons afforded an opportunity of dealing with them before the Russians could intervene, they were decisively beaten on October 14th at Jena and Auerstadt. Prussia was then overrun, and at the end of November Napoleon appeared on the Vistula with a force of eight corps, comprising 100,000 men. Here he was, however, obliged to pause owing to the presence of a Russian army of about 75,000, which had also been joined by some 15,000 men, the remnants of the Prussian forces. On the other hand, Saxony had, early in December, deserted her allies and entered the Confederation of the Rhine.

At the close of 1806 the British fleets held the command of the seas, and there were considerable squadrons not only in the Mediterranean but off the Atlantic and other coasts of France. Of Britain's land forces there were approximately 160,000 regulars and militia in the United Kingdom, besides 290,000 volunteers. Overseas there were about 100,000 European regulars, of whom 11,000 were in garrison at Gibraltar and Malta, 18,000 were quartered in Sicily to secure the island against the French who had occupied the whole of Italy, India and Ceylon absorbed about 25,000 British soldiers, and there were 5,000 at the Cape; 11,500 were taking part in or about to commence eccentric enterprises against Monte Video and Buenos Ayres, there were 6,000 men in Canada and about 22,000 in the West Indies. Troops, therefore, were available to undertake operations in direct concert with Russia, for which an appeal seems to have been made during Napoleon's conquering advance through Germany. The British Government, however, hesitated to expose the army and fleet to the hazards of a winter campaign in the Baltic regions; and at this period, owing to the lack of success which had attended many of her larger military ventures, and particularly those on the Continent in 1794, England had, perhaps, instinctively become averse to the commitment of considerable forces in decisive operations on land. The request for armed assistance on land and for a subsidy was, therefore, refused.

While these events were taking place in Germany, Sebastiani had achieved a considerable measure of success at Constantinople. Under a treaty arranged in 1802 it had been agreed between the Turks and Russians that the governors of the Turkish provinces of Moldavia and Wallachia, the modern Rumania, should not be changed without the sanction of the Czar, and in 1806 both provinces were under rulers favourable to Russia. Sebastiani's intrigues not only produced their dismissal in August, 1806, but the appointment of substitutes with leanings towards France.

News of this event produced strong protests in Constantinople on the part both of Russia and of England, who were alarmed at the increase of French power in the councils of Turkey, and, as a result,

the measure was repealed in October. In the interval orders had, however, been sent for the invasion of the provinces by a Russian army, and the force of about five divisions, of 50,000 men, detailed under General Michelson for this purpose, made such good progress that by December he had advanced as far as Belgrade, then under Turkish rule. In consequence of this invasion Turkey declared war on Russia, and Napoleon, taking full advantage of this opportunity of effecting a diversion, at once directed Marmont to despatch to Constantinople engineer and other officers and men to assist in the organization and training of the Turkish forces.

The appearance of Napoleon on the Vistula had, meanwhile, necessitated the recall of four of Michelson's divisions; and although the Turks were not ready for immediate operations the situation of the remainder of the Russian force on the Danube was not only precarious, but a serious invasion of Russian territory was to be anticipated in the spring of 1807, when decisive operations would also probably be in progress in Poland. The Russians, therefore, again made representations that the British should come to their assistance, suggesting the expediency of a move against the Turks.

Ever since Napoleon's invasion of Egypt, in 1798, England had regarded with a jealous eye all attempts to extend French influence in the direction of India; and that Napoleon did at this time still entertain such projects is shown by instructions issued to Marmont, in which it was observed that "our relations with the Eastern Powers are now such that we may look forward shortly to transporting 40,000 men to the gates of Ispahan, and from thence to the shores of the Indus." The British Government, therefore, was not averse to some military demonstration against Turkey, which would at any rate suffice to obtain the dismissal of the French envoy and to increase British influence in Egypt.

The Turkish Empire extended, in 1806, from Dalmatia to the Persian Gulf, and included not only Greece and Egypt, but much of the northern coast of Africa. Many objectives, therefore, were open to Great Britain. Constantinople, however, standing on the Bosphorus, was almost in the centre of this vast area, and, owing to its geographical position, a blow at Constantinople could most readily be struck either from the Sea of Marmora, or from the Black Sea, which seemed to offer an attractive opportunity for the employment of maritime force.

Britain's long roll of naval victories, which had culminated in Trafalgar in 1805, had, as was natural, inspired unbounded confidence in the power of the fleet. "The naval forces of England appeared, therefore, to be precisely calculated to effect her objects, and, as some vessels were cruising at no great distance in the Ægean Sea, it was hoped that a vigorous demonstration against Constantinople would at once terminate the contest in this quarter." Orders, consequently, were sent late in November to Collingwood, who was commanding the fleet in the Mediterranean, to detach a squadron for the purpose of taking up an offensive position outside Constantinople. At the same time the officer in command of the forces in Sicily was directed

to detach 5,000 troops for the occupation of Alexandria, but not of Egypt, although measures were to be taken to make British influence preponderant in the country. The instructions continue: "How you are to do this we do not know; but our reasons for sending 5,000 troops is that we are not disposed to risk more in pursuit of this object." As observed at the time, the force, therefore, was indeed too large for piracy and too small for conquest.

Admiral Duckworth, who was cruising off Ferrol, was now ordered to proceed to the Dardanelles with four ships of the line, and here he was to pick up Admiral Louis, who was already on station there with three line of battle ships and four frigates.

On January 29th, 1807, the British gave fair warning of their intentions by presenting an ultimatum to the Sultan, which demanded the dismissal of Sebastiani, the entrance of Turkey into an alliance with England and Russia, and the opening of the Dardanelles to Russian shipping. These conditions were necessarily refused, and the British ambassador withdrew from Constantinople.

Notwithstanding the peremptory terms of the ultimatum, coupled with a warning from Sebastiani that a naval attempt would be made on the Dardanelles, the Turks took no measures to repair the forts, which were in a neglected condition, or to mount guns, but continued to despatch all available forces to the Danube. On February 19th, therefore, Duckworth easily forced the straits with seven ships of the line, two frigates, and two bomb vessels; and, with that daring which is allied to rashness, proceeded at once to Constantinople, oblivious of or indifferent to the fact that the door which had been forced might be barred behind him.

The sudden arrival of the British fleet caused much consternation in the Turkish capital, which was practically defenceless against an attack from the Sea of Marmora. The Turks, therefore, were inclined to accept Duckworth's vigorous demand that they should accede within twenty-four hours to the terms of the British ultimatum, or suffer a bombardment which would, he said, reduce the city to ashes. Sebastiani, however, kept his head, and pointed out the absurdity of surrendering a city of 900,000 inhabitants to a small squadron which, at worst, could only destroy some houses. He added that there were weapons enough in an arsenal, well stocked with warlike stores, rapidly to secure the capital. As a result the Turks temporized, and set about constructing batteries with such goodwill that, under the direction of Marmont's engineers, three hundred guns were mounted in three days, and a thousand within a week. At the same time one hundred gunboats were placed at the mouth of the Golden Horn, twelve warships lying in the Bosphorus were cleared for action, and fire ships were prepared.

Duckworth, finding that his menaces had produced only reaction, relapsed into inactivity, and, after helplessly watching the measures of defence, prepared to withdraw to the *Ægean*, as an attack had clearly become impracticable. It was, however, not until March 1st that a favourable wind set in. On arrival in the Dardanelles the results of the carelessness of the British were at once manifest, for

the Turks, who had improved their defences in the interval, opened so heavy a bombardment that the squadron was lucky to escape with two hundred and fifty casualties, and some damage to the vessels, including the loss of the mainmast of the flagship. Soon afterwards the British were joined by a Russian squadron of eight vessels, whose commander proposed another attack on the straits. But the British "had too recently experienced the dangers of the straits to venture a second time."

The enterprise, although unsuccessful, was, however, not without some effects, for the Turks had been obliged to expend force and resources on the defence of Constantinople which might otherwise have been used against the Russians.

While these events were taking place, the French, after some minor actions with the Russians, had gone into winter quarters on the line of the Passarge, and were busy in bringing up reinforcements and in consolidating their positions. The Russians, however, whose armies had also received accessions, again took the field in February, 1807. As a result the bloody and indecisive battle of Eylau was fought on the 8th between the main bodies, while Michelson's four divisions took part in an attack on the French right at Ostralenka. Operations were then suspended, but finally, in June, the Russians were decisively defeated at Friedland; and, as a result, peace was made at Tilsit, in July, between France, Russia, and Prussia, the Turks being left to carry on as best they could the struggle against the Russians.

The British expeditions to Buenos Ayres and Egypt ended disastrously. In each case heavy casualties were suffered and a number of prisoners lost to the enemy, but in each the prisoners were restored before the withdrawal of our troops under conventions with the enemy.

#### 1914-1915.

Although the Turkish Empire had shrunk considerably in size during the century that intervened between the years 1806-1807 and 1914-1915, the Turks still held Constantinople, and their frontier, if no longer on the Pruth, was, owing to Russian expansion eastwards, coterminous with that of Russia in the Caucasus. As in 1806-1807, Russia was in alliance with England, and was now again engaged both in a formidable struggle in Poland and in subsidiary operations in the Caucasus. Great Britain's position in relation to the Turks and to the security of India had been strengthened by the British protectorate over Egypt. On the other hand, Britain was not without anxieties as to the safety of her Indian possessions, and it was the growth of German and not French influence that was now to be feared in Constantinople. All the British land forces that were available early in 1915, after arranging for the security of Egypt, India, and their remaining possessions, were locked up in northern France. Owing to Germany's sea power, direct assistance to Russia could not be afforded by the Baltic, but the fleets of the British Empire commanded the remaining seas as effectively as in the previous century.

Superficially, at any rate, the strategical situations in the winters of 1806-1807 and 1914-1915 were, therefore, not dissimilar, and, as will be shown, there were also points of resemblance in the actions of the various belligerent Powers.

The fighting in the West in 1914 had ended with the defeat of the Germans at Ypres, and, although some successes had been gained in the Eastern theatre by the Russians over the Austrians in Galicia, the warfare with Germany in Poland had on the whole been evenly balanced. On January 2nd, 1915, the Russians took a step resembling their action in 1806, and a telegram was received in London from Petrograd to the effect that the Russians were hard pressed in the Caucasus—although, as a matter of fact, a victory over the Turks was gained on the following day—and it was hoped that the British would be able to ease the situation by means of a demonstration against the Turks in some other quarter. Britain at once agreed to do so, and on the next day a reply was sent that a demonstration would certainly be made, but that it was feared that such action as could be taken would be unlikely to result in the withdrawal of troops from the Caucasus. At the same time Lord Kitchener, the Secretary of State for War, informed the First Lord of the Admiralty that he did "not see that we could do anything that will seriously help the Russians in the Caucasus. . . . We have no troops to land anywhere. The only place that a demonstration might have any effect in stopping reinforcements going East would be the Dardanelles. . . . We shall not be ready for anything big for some months."

Shortly before this correspondence had taken place a memorandum had been circulated amongst the members of the War Council showing the trend of opinion at this period in certain circles. In this paper attention was invited to the "remarkable deadlock" which had supervened in the French theatre of war. Allusion was then made to the possibility that some other locality might advantageously be found for the employment of the British New Armies, which were then in process of formation; and it was suggested that Germany might be "struck most effectively, and with the most lasting results to the peace of the World, through her allies, and particularly through Turkey."

It has been pointed out that, in 1806, the British were averse to the engagement of large British forces on the Continent. As this aversion has been a general characteristic of Britain's military policy during the four hundred years prior to 1914, it may well be asked whether an instinct does not exist, based on a sound foundation of principle, which has made our comparatively small island nation hesitate before committing its population definitely to a struggle with unlimited liability on land against the more numerous peoples of the Continent of Europe; and if it was this instinct which now pointed "to the East as the true objective"? Whether this is or is not the case, it was eventually again decided by the British authorities that, as in 1806, "the naval forces of England . . . appeared precisely calculated to effect her object." Further, the geographical fact that the political centre of the Turkish Empire could be approached through the Dardanelles again exercised a momentous influence on British strategy; and it was resolved,

after consulting the French Admiralty, who were favourable to the project, and the Grand Duke Nicholas, commanding the Russian forces in Poland, who "believed it might assist him," to undertake a naval attack on the Dardanelles.

Other factors naturally also affected this decision. There seems, for instance, as in 1806, to have been some undervaluation of the resistance likely to be offered by the Turks; and, in the light of what happened in 1807, perhaps an underestimate also of the effect that would be produced by the appearance of the Allied fleets in the Sea of Marmora. For it was believed that, "once the ships are through, the position of the Gallipoli Peninsula ceases to be of any military importance"; and we "confidently looked forward to a revolution taking place in Constantinople if once the British fleet appeared in the Sea of Marmora." It was claimed, moreover, that success would cut the Turkish army in half, and there seem, at this period, to have been about 200,000 troops in European Turkey; "it would put Constantinople under our control; it would finally settle the attitude of Bulgaria and the whole of the Balkans; it would give us the advantage of having the Russian wheat" . . . . and would enable ammunition, of which there was a shortage in the Russian army, to be imported. Finally, it was urged that, if satisfactory progress were not made, the attack could be broken off without loss of prestige.

The naval operations against the land defences of the Dardanelles did not answer to expectations, and as time wore on a feeling arose that military support would be required to secure any ground gained by the Navy. A military expedition was therefore prepared with this object. On March 18th the allied British and French fleets, however, met with a definite repulse, and out of sixteen large vessels that were engaged, three were sunk and four others seriously injured. Sir Ian Hamilton, the commander designate of the military forces which were to be sent to second the Navy, had reached Tenedos on March 17th. After watching the naval attack on the forts he telegraphed to the War Office that "the army's share will not be a case of landing parties for the destruction of forts, etc., but rather a case of a deliberate and progressive military operation carried out in force in order to make good the passage of the Navy." It seems now to have been held that the enterprise had been carried too far to admit of its abandonment, and Lord Kitchener therefore replied: "You know my views that the passage of the Dardanelles must be forced, and that if large military operations on the Gallipoli Peninsula by the army are necessary to clear the way, these operations must be undertaken after careful consideration of the local defences, and must be carried through." The Allies, therefore, were committed to a combined operation on a large scale, and the first military landing in force took place on April 25th.

The question as to whether the operations undertaken against Constantinople in 1807 and 1915 were wise or unwise does not come within the scope of this paper, which has been written with the object of showing that similar causes are always likely to produce similar effects; and that in similar circumstances men's thoughts may be

expected to turn towards similar expedients. Too much stress, however, must clearly not be laid on what may be nothing more than fortuitous resemblances between the strategical situations in 1806 and 1915, for such similarities may never again recur. On the other hand, so long as war is waged on land and sea the physical facts of geography cannot fail to exercise a preponderating effect on its management. This alone seems to justify the study of the military history of the more distant campaigns, as well as of those of the immediate past.



# THE DEVELOPMENT OF MALTA AS A FIRST-CLASS NAVAL BASE SINCE ITS INCLUSION IN THE BRITISH EMPIRE

By VICE-ADMIRAL BALLARD, C.B.

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ON September the 4th, in the year 1800, the French Army, which had been driven into Valletta by the population, and besieged for two years, surrendered through famine after a most valiant defence, being cut off from all hope of relief by the British blockading squadron on the watch outside. The Maltese thereupon placed themselves under British protection, and the sovereignty of the Island changed hands.

In the long history of Malta changes of ownership had been frequent since very early times, but the change in the year 1800 differed from all others in two noticeable particulars. To begin with, it was the first which had ever been brought about by the action of the inhabitants themselves, all other changes having been forced upon them from outside. Secondly, it brought the Island for the first time into the possession of a state whose territory and seat of government were outside the Mediterranean altogether. These two facts are not only remarkable in themselves, but obviously related to each other, for only a people free to choose could have placed themselves under such an allegiance. And as history teaches us that small nations often develop an acute political foresight in their struggle for existence, it is worth while to enquire into the motives which influenced the Maltese people in making that ever memorable choice. Why, we may ask, when for the first time they had a voice in their future destiny, did they turn from all the great Latin States which were their nearer neighbours, and offer their Island to England—a country geographically remote from their own, with which they had no connection in race, language, history, or church, and no past associations, except in so far as England had helped them to get rid of the French?

Their action may appear strange at first sight, but perhaps their reasons are not far to seek. Certain points of material importance to themselves must have been present in their minds, from a knowledge derived in part from their own history, and in part from the facts which were then before their eyes. They knew from the traditions of their forefathers that for centuries in the past the Island had been coveted by every Mediterranean maritime state in turn, and for sufficiently obvious reasons. It lay at the very centre of a most important area where all main routes converge, and it possessed one of the finest natural harbours in the world, whereby full advantage could be derived from this

central situation. With a less central position, or with a poor harbour, the history of Malta might have been as uneventful as that of the Island of Pantelleria, which has an admirable situation but no harbour, or Milo, which has a splendid harbour but lies too far from important trade routes to be of any use. Malta has both the situation and the harbour and, in consequence, when the Maltese rose against the French and obtained for the time a complete freedom from foreign control, they knew that a future of permanent independence was hopeless to expect. But it remained for them to select a sovereign in so far as that lay in their power. And they realised from their own history that only a state which was very strong at sea could retain the Island in its possession. They knew that the galleys of the Knights of St. John had failed to protect it from invasion by the troops conveyed by the superior fleet of the Turks, and that every soul in Malta would have suffered death or slavery at the hands of the janissaries of the great Sultan Suliman, had it not been for the timely aid available through the still more powerful fleet of King Philip of Spain. Their position was a difficult one. They had compelled the French garrison to surrender. But France was at that time the strongest of the Latin States by sea or by land, and it would have been a futile measure to expel the French troops from the Island, if it remained possible for Napoleon's soldiers to return in overwhelming force and inflict condign punishment for the insurrection. It was no use, therefore, to place themselves and their Island under the protection of the King of Spain or any of the rulers of the Latin States, for France was stronger than any of these and would never have tolerated such a step. Only Great Britain remained to be considered. Of Great Britain they knew very little, but the presence of Sir Alexander Ball's squadron in Maltese waters afforded evidence that Great Britain had a very long and a very strong arm at sea. The tricolour of France had disappeared beyond the horizon, but the Union Jack flew unchallenged in the Grand Harbour, and they knew that under its protection they need fear no return of Napoleon's troops, even though these troops were then beginning a series of campaigns in which they overran nearly all Europe.

To Great Britain they accordingly turned, and, in placing themselves under the British Flag, they not only met the requirements of the immediate situation, but secured the welfare of their posterity in a pre-eminent degree, for it is impossible that any impartial witness could deny that no other nation would have bestowed such material benefits on Malta. This assertion is not advanced in any spirit of criticism towards other countries. In the matter of civil and religious liberty, it is, of course, quite possible that the Maltese would have been granted the same privileges under other flags as they now enjoy under the Union Jack, although they could not enjoy more. But it is an incontrovertible fact that no other country could then, or could now, find so much use for Malta as Great Britain, or would have had occasion to spend such great sums of money on the Island. As far as material prosperity is concerned, it is the very fact that England lies outside the Mediterranean which has conferred immense benefits upon Malta. Strange as this may seem, it

is nevertheless not difficult to explain. At the close of the French occupation of the Island, and right on till the present day, all the great maritime Powers with interests in the Mediterranean have been in possession of good war bases for their fleets, except Great Britain. Spain has Carthage; France has Toulon; Italy has Spezia and Naples; Austria had Pola and Sebenico. To none of these States could Malta offer what they did not already possess, that is to say, a headquarters for their fleet in the Mediterranean, and at no period from the beginning of the 19th Century would any of them have spent great sums of money in equipping the Island with a first class naval dockyard. From their standpoint, Malta offered a good commercial port of call and a useful anchorage in a good strategic position for their fleets in time of war, but nothing more. To England, the Island afforded the opportunity of acquiring a permanent Naval Base in the Mediterranean for the first time, and hence the importance of Malta as a great centre of naval activity to the present day. Hence also the expenditure of many millions of money whereby during the past 100 years and more, thousands of Maltese have earned a means of livelihood which would never have been open to them under any other flag. Immense sums have found their way into the Island from the British Imperial Treasury to maintain its position as the headquarters of a much greater fleet than would ever have been seen here otherwise; and the expenditure in question has by degrees benefited whole districts, so that at the present day the towns of Senglea, Cospicua, and Vittoriosa are almost entirely dependent upon the dockyard and the fleet, while Casal Paola, Hamrun, Zabbar, Zeitun, Curmi and others are all very largely supported in the same way.

Such, therefore, are the reasons why Malta stands to-day as one of the most important and best equipped of naval bases and arsenals in the whole world. England required a base for her fleet in the Mediterranean, and Malta supplied the want. It is proposed now to trace its rise as such from very small beginnings; but before doing so, it may be well to recall the principal topographical features of the Grand Harbour and its surroundings.

On the west side lies the Valletta peninsula, on which stands the modern capital, and on the opposite side to Valletta are the series of indentations known as Bighi Bay, Dockyard Creek and French Creek. Between these bays lie a series of promontories projecting into the harbour towards the north-west. The first of these is Bighi Point which separates Rinella and Calcara Bays. Then comes Vittoriosa which formed the capital of Malta in the days of the great siege and is the oldest inhabited district facing the Grand Harbour. Next to Vittoriosa comes Dockyard Creek which formed the Galley Harbour in the days of the Knights of St. John. On the opposite side of Dockyard Creek to Vittoriosa lies the Senglea peninsula, which at the time of the siege was a bare unoccupied promontory, but is now one of the most thickly populated districts in Malta. On the west side of Senglea, we come to the French Creek, and then to the Corradino Heights. Further up at the head of the Grand Harbour lies the commercial anchorage known as the Marsa.

When the British Government assented to the request of the Maltese people to add Malta to the British Dominions, Admiral Sir Alexander Ball was appointed as the first Governor, and all the buildings on shore formerly utilised in connection with the requirements of the fleet of the Order of St. John were placed at the disposal of the British Admiralty for such purposes as they might think fit. These buildings, however, were not adequate for the depot of a large fleet. They consisted of two storehouses in Valletta, and several others along the sea-front of Vittoriosa, Cospicua and Senglea at detached intervals, all standing in public thoroughfares; also the old Galley Arsenal in Dockyard Creek, and a slipway and magazine in French Creek. They included further the fort at the east end of Senglea line of defences, now known as the Sheer Bastion. These formed the original nucleus of the existing dockyard and victualling yard, and, with the exception of the two storehouses on the Valletta side, all are still British Admiralty property.

Those on the Vittoriosa sea-front are among the oldest buildings in Malta still in use as residences. They date back to the 16th Century, and now fulfil the purpose of storehouses for the provision and clothing of the fleet and official residences for the Admiral Superintendent and certain other officers. When first handed over to the British Admiralty, the ground on which they stood was an unenclosed public area, and the whole water side in front of them was open to the people of Vittoriosa, just as the east side of Senglea is open at the present day. Access to the town behind these buildings was obtained through narrow lanes of steps between them, which still exist, although now walled up at the back. The long double colonnade which extends over the whole length of the jetty had not then been built, and the jetty itself formed the general town wharf for Vittoriosa and was known as the "Strada della Marina."

Next adjacent to these buildings stood the old Galley Arsenal, which had done service since the very early days of the Knights. This arsenal was enclosed on three sides by high walls and fronted the water on the fourth. Old plans show the greater part to have been covered with a flat roof. The side facing the water was formed of three slipways on which the galleys were hauled up for repairs.

Next to the old arsenal on the other side was the public Marina of Cospicua, on which stood about a dozen buildings used as storehouses for the galleys' equipments. These were taken over by the British Admiralty. From that point there were no more naval buildings on the water front till the other side of Dockyard Creek was reached. Here stood an enclosed area known as the New Arsenal in the latter days of the Knights, in distinction to the Old Arsenal in Vittoriosa. The New Arsenal had been used in connection with the larger vessels which were added to the fleet of the Order during the 18th Century and to this day the names of several of their frigates remain cut in the stone above the entrances to the storehouses in which their spare equipment was kept.

Next again to this so-called New Arsenal came the historical St. Michael's Bastion, which in the days of the great siege had formed the chief defence of the neck of the Senglea peninsula. This is one of the old

16th Century works which at the time of the first British occupation had already ceased to be of importance for defence purposes, owing to the construction of the more advanced circle of fortifications known as the Cottonera Lines. But affording, as it did, a lofty and very solid structure right on the water's edge, it was selected by the Knights as a foundation for the sheers used in masting their vessels, and, owing to its obvious suitability for the purpose, it remained in use as such by the British Admiralty. Hence its present name of "The Sheer Bastion." To this day the sheers remain in position and, rising as they do to a height of 160 feet above water, form a very conspicuous object in Dockyard Creek, although now seldom used except for hoisting signals on. In the outer hall of Admiralty House, Vittoriosa, hangs an interesting old picture showing a ship with the red flag and white cross of the Knights of St. John lying alongside the Sheer Bastion, and a remarkable relic of the great siege is still to be seen on the lower part of the bastion walls in the shape of the large iron rings to which was shackled the end of one of the booms which formed so important a feature in the defence of the fortress against the Turks. The interior of the Sheer Bastion was allocated by the Admiralty as offices to which use it is still applied. Next the Sheer Bastion on the Senglea side came three large dwelling-houses on the Senglea Marina which formed the first part of Dockyard Terrace as it now stands, and were appropriated as official residences for officers of the dockyard.

This completes the list of buildings handed over to the Admiralty when Malta first came under the British flag. A captain in the Royal Navy was appointed as Resident Commissioner for naval affairs, which was the title in use for an officer in charge of a naval base on shore before the title of Admiral Superintendent was introduced. As his responsibilities at Malta were on a small scale in the early days of British possession, he was put in charge of the naval depot at Gibraltar as well. Another relic hanging in the entrance of Admiralty House, Vittoriosa, is the original letter appointing Rear Admiral Briggs as Naval Commissioner for Malta and Gibraltar.

For the first few years British naval administration at Malta remained on an unsettled and temporary footing, the reason being that the British occupation of the Island was not then considered necessarily permanent. England was feeling the long strain of war when the Peace of Amiens was signed in 1802, and the British Government were not at all anxious to add to their responsibilities in regions distant from home waters. Malta had a value as a potential base for naval operations in the Eastern Mediterranean, should war again break out requiring naval activity in that sea. But British interests in those regions at the time were small, and war was not considered probable. Moreover, no local State was in a position to seriously threaten them. The great Black Sea wheat trade had not yet sprung into existence and the road to India still lay by the Cape of Good Hope. The Sultan of Turkey was friendly and, even had he been otherwise, he was no longer a possibly serious menace, for Turkish

maritime power was already far on the wane. After deliberate consideration, therefore, England agreed by the Treaty of Amiens to withdraw from Malta, although in so doing the British Government stipulated that the Order of St. John should be reinstated in possession and that the Island should not be transferred to any other maritime power.

But this decision caused the greatest consternation in Malta, where the benefits of British rule had been thoroughly appreciated by the Maltese. The populace tore down the official proclamations announcing the intending British evacuation of the Island, and despatched a petition to England begging that the decision might be rescinded. The withdrawal was thereupon postponed pending further consideration; and, while still in abeyance, war with France broke out once more. This decided the British Government to remain in Malta, the British possession of the Island being finally confirmed by the Treaty of Paris, which ended the ten further years of hostilities which followed.

Shortly after the recommencement of the war, Captain Otway, R.N., arrived in Malta as Resident Commissioner for Naval Affairs, and, foreseeing that the British possession was now likely to be prolonged, and probably permanent, he set to work to put the Naval Establishments on a properly defined footing, as regards strength of personnel and general administration. It is interesting to see what he considered an adequate staff of employees in those days. After providing for all necessary work in hand and in prospect, he fixed the number of men required collectively for the Dockyard, the Victualling Yard and the Naval Hospital at 170. In the great war now concluded, the number of men drawing Admiralty wages in these establishments stood at over 10,000.

It is interesting, further, to note the change in the nature of the work carried out, for whereas at the present day the majority of the thousands of artisans employed are using their tools on steel, iron, brass or copper, in 1804 the only metal artisans in the Dockyard were a pair of blacksmiths. Of the remaining workmen, more than half were sail-makers and rope-makers, for the constant repairs to machinery which are necessary at the present day, were represented in the sailing area by equally constant repairs to sails, masts and rigging. Nelson himself, at that period, was engaged in his long watch off Toulon, using Malta as his refitting base; and every time one of his line-of-battleships underwent a refit at Malta, miles of new rope were required and immense quantities of canvas, for the sail area of a ship of the line was 28,000 square feet, and in the wear and tear of war, a new suit of sail was necessary about once a year.

The remaining Dockyard artisans were all shipwrights, sawyers and caulkers, skilled in working in wood. These trades still exist in the Dockyard in small numbers, and also a certain number of sail-makers, although, except for ships' boats, they never actually make a sail, and their work lies in the manufacture of awnings, gun-covers and other canvas fittings still required in the Navy. Rope-makers are also still necessary in the yard, but in reduced numbers. The associated trade of hemp combers, who prepared the hemp for the rope-makers, has long

since disappeared. The unskilled workmen in 1804 consisted of 24 labourers, who also acted as boatmen and lightermen. The labourers employed by the Admiralty during the recent war were a hundred times more numerous than these original figures.

Three officers exercised authority in the Dockyard besides the Commissioner. These were: the Master Attendant, the Master Shipwright and the Storekeeper, who were the predecessors respectively of the Captain Attendant, the Chief Constructor and the Naval Store Officer of the present day. There was also a Surgeon for the Naval Sick Quarters, and an Agent Victualler, who are now represented by the Surgeon Captain at Bighi Hospital, and the Superintendent of the Victualling Yard.

Such was the complete staff of officers and men in the Naval establishments on shore, when Malta was first placed on a permanent footing as the headquarters and repairing base of the British Fleet in the Mediterranean, during a period of strenuous maritime war 115 years ago. It may be asked: What material benefit has Malta derived from British Admiralty requirements in that interval? That question can be answered by reference to the records in the Dockyard offices. In 1804, the average weekly pay of the workmen in Admiralty employ in Malta aggregated about £95. In 1918, the sum required for the payment of one week's wages was over £20,000, nearly every penny of which was spent and circulated in Malta.

Let us now pass on to the second period of war with a European adversary, in which England was engaged after Malta became a British possession. This takes us over an interval of just 50 years, to the time when Great Britain became involved in hostilities with Russia, but with France as an ally instead of an enemy. Once again Malta was immune from direct attack or invasion, in virtue of British maritime supremacy, and the Maltese of that day saw no more of the legions of the Czar than they saw of those of the Kaiser in the late war. But Malta nevertheless filled an important rôle as a naval base. British and French war vessels and transports and store-ships were constantly calling in for coal supplies and repairs *en route* to the seat of war. Large stocks of naval and military stores were deposited in the Island, and it is said that handsome fortunes were made by local contractors. The Dockyard and other Naval Establishments were busy day and night, to an extent they had never been before, and the whole period was one of great prosperity for the Island.

Some expansion of the Naval Establishments had taken place in the 50 years' interval. Bighi Villa and grounds had been acquired by the Admiralty and enlarged to the size of a first-class hospital, not indeed of its present dimensions, but adequate for the requirements of the period, and superior to any other Naval Hospital abroad in those days. In Dockyard Creek the original Admiralty property had been extended, re-arranged and consolidated. In the first place, the public jetty of Vittoriosa, known as the Marina, on which stood the official residences, and the provision houses for the fleet, had been closed to the public by

a wall running from house to house, and was now entirely reserved for naval use as a Government wharf. The long double colonnade, which is a familiar object to those who have occasion to visit that side of the harbour, had been built over this jetty, and the Admiral Superintendent had been installed in the house which has ever since been the official residence of his long line of successors.

The old Galley Arsenal, which had adjoined this Marina, had been demolished and a large bakery built on the site. Naval baking in 1854 had nothing to do with the production of what is generally known as bread, but consisted entirely in the manufacture of the old type of naval biscuits, known to sailors as "hard tack." The ordinary soft bread sold by bakers was not provided as an article of naval diet until many years later, and the official ration for officers and men was always biscuit. But it was officially designated as bread, and the building where it was manufactured and issued in hundreds of tons was officially styled the "bakery." Next to the Bakery, on the east side, stood a public jetty, which was known as the "Garden Reach," and in 1854 was still Civil Government property. By this jetty, the people of Vittoriosa had access to the waterside in Dockyard Creek, even after the old Marina had been enclosed by the Admiralty. On the east side of Garden Reach lay the moat of the old Vittoriosa line of fortifications, which the Admiralty at one time proposed to convert into a dry dock, but that scheme was abandoned. To the eastward of the moat, the land surrounding the Admiralty storehouses on that part of the water front had been acquired by the Admiralty in the interval, and the public wharf at Cospicua also, the whole having been enclosed and reserved for naval use. The land at the head of Dockyard Creek, on which the Burmola Market had once stood, had also been acquired, and the acquisition extended along the water front in both directions, so as to meet the Admiralty Jetty, in Cospicua, on one hand, and the so-called new Arsenal on the other. Admiralty property, therefore, in 1854 reached from Cospicua, along the water side, round the head of Dockyard Creek to the Sheer Bastion, Senglea. A most important development in the equipment of the Dockyard as a Naval Base had taken place in this newly acquired area, by the construction of a dry dock at the head of the Creek. This, the first dry dock built in Malta, was opened in 1848, six years before the Crimean War. It met an urgent naval need of long standing, and the same dock, in a slightly extended form, remains in constant use to the present day. It was capable of receiving any vessel afloat at that time, and a photograph is extant of the old three-decker "Hibernia" in that dock, one of the largest vessels in the British Navy in the early part of the 19th Century, which afterwards lay in Malta Harbour as *dépôt* ship for many years. At the present time, ships are so much longer in design that the first dock in Malta is too short for anything larger than destroyers and small craft.

It will be seen, that by 1854 the Admiralty had acquired about three-fourths of the entire shores of Dockyard Creek. Only the Senglea Marina, from the Sheer Bastion to Isola Point and the jetty on the

Vittoriosa side, known as Garden Reach, remained Civil property, open for general public use. But, as yet, the immense extensions to the westwards, which followed in successive years, had not even been thought of. In the first half century of British sovereignty of Malta, the development of the Naval Establishments had been chiefly in the direction of consolidation and equipment. Extensions there had been, but not on a large scale, as compared with the original area. It was left to the next half century to witness the acquisition of enormous additional space for Admiralty purposes.

In 1854, the staff consisted of 360 officers and men, that is to say, it had more than doubled in the 50 years since first organized. The workmen, however, were of precisely the same trade as at the first. Ships were still built of wood and, although the steam engine had been turned to practical use, its application to maritime propulsion was on a very small scale, and all ships in the Navy were fully rigged for sailing. The only steam battleship in the whole British Fleet in the Mediterranean was the 90-gun ship "Agamemnon," whose namesake of the present day has often been seen in Malta Harbour. The Dockyard workmen, therefore, were still nearly all either shipwrights or sawyers, whose tools were the axe, the adze, the augur and the saw, or sail-makers and rope-makers, who worked with the marlinespike, the sail-needle and the rope-jack. The officers of the Naval Establishments were the Admiral Superintendent, the Master Attendant, the Master Shipwright, the Agent Victualler and the Civil Engineer. The title of Commissioner for Naval Affairs has been abolished, and that of Admiral Superintendent substituted. The wages of the Dockyard staff at this period averaged about £260 per week, or nearly three times as much as when Malta first became a Naval Base. This was an appreciable addition to the material benefits conferred on Malta, but very small indeed in comparison with what was to follow in the period which succeeded.

Such was the general scale to which the Naval Establishments on shore at Malta had been developed when Great Britain was engaged, for the second time, in war with a European enemy, since the day when the British flag was first hoisted over the Island. Sixty years of peace were to elapse before the next. Then, on August 4th, 1914, at midnight, the Admiralty telegram, announcing the declaration of war against Germany, was despatched to the British Admirals serving in all the seas of the world, and Malta once more became destined to fill the part of a first-class Naval Base in a great European conflict, the greatest indeed in history. As before, however, the Island itself remained immune from direct attack, by virtue of our supremacy in the surrounding waters. Not a single shot was fired by the land defences at an enemy from first to last, although hostile submarines constantly infested the vicinity.

It has been explained that some expansion of the Naval Establishments at Malta had taken place between the first and second periods of war. But it was as nothing compared with the expansion which took place between the second and the third. Many reasons exist for this,

the chief of which were : the renewed growth of the maritime power of France ; the building of great fleets by Germany and Italy ; the opening of the Suez Canal ; the rise of the Black Sea wheat trade ; and the change from wood to steel as material for shipbuilding, and from sail to steam as a method of propulsion. The increasing fleets of the Powers and the increasing volume of British Mediterranean trade necessitated a corresponding increase in the fleet required to protect it. The changes in ship construction and methods of propulsion increased the individual ships to five times their previous tonnage and fifteen times their previous cost. At the period of the Crimean War three-quarters of the foreshores of Dockyard Creek and one dry dock therein situated afforded sufficient space for all naval requirements on shore. But in the succeeding 50 years they increased so much that the area occupied by the Admiralty extended by degrees not only in Dockyard Creek itself, but overflowed into French Creek and spread at intervals right up to the head of the Grand Harbour and even round it. Moreover, the Admiralty acquired property in many parts of the island away from the Grand Harbour altogether, as for instance on the shores of Marsamuscetto and Marsa Scirocco, at Calafra, Ghain Tuffieha, Ricasoli, and other points for the various signal stations and wireless telegraph stations necessitated by modern conditions.

Taking these extensions in succession as they now stand, although not in the order in which they were acquired, and beginning at the eastward, the first considerable plot of land which we now find as Admiralty property is at the head of Rinella Bay. Here has been established a high-power wireless telegraph station by means of which Malta can communicate direct with England, or, if necessary, with other distant stations in the British Empire. Next, in Dockyard Creek, the area required for naval use begins right out at Fort St. Angelo, which is now the naval depôt where officers and men permanently stationed at Malta are quartered. Then the Garden Reach Jetty in Vittoriosa, which in 1854 remained unenclosed as a gap in the Admiralty line of wharfage, has been added to it and closed to the public, whose only right of way to the water on that side of Dockyard Creek is now by the San Lorenzo, Santa Teresa and Santa Caterina Steps, the first two of which were constructed by the Admiralty as substitutes for the former public Marinas. These steps pass over tunnels connecting the Admiralty property on either hand, and it is possible now to walk on Admiralty ground round Dockyard Creek from the extremity of St. Angelo on one side to the Sheer Bastion Jetty and Dockyard Terrace on the other. But this extension was not sufficient for the ever-growing needs of the British Mediterranean Fleet in the second half of the 19th Century. The increase in the length of ships rendered a new dry dock an absolute necessity soon after the Crimean War, and there was no possible site for the construction of such a dock in Dockyard Creek. The Admiralty engineers, therefore, had to look elsewhere, and eventually selected a position on the opposite side of the neck of Senglea peninsula, just outside the old line of defence known as St. Michael's Bastion, facing that part of the harbour known as the French Creek. Here a new dock was begun which was completed in 1871. It was named "The Somerset Dock,"

after the Duke of Somerset, who was then First Lord of the Admiralty. Two tunnels were driven under the elevated public thoroughfare which gives Senglea access to Cospicua, and these connected the old Admiralty property on Dockyard Creek with the new extension on French Creek. When first constructed and for a few years afterwards, the Somerset Dock, which was a great advance in size over the old dock built in 1848, was large enough to take any ship in the Navy. It still remains in constant use, but, like its predecessor, is now only long enough to take the smaller classes of vessels.

It was while the Somerset Dock was actually in course of construction that the opening of the Suez Canal took place, which affected the whole strategic and commercial situation in the Mediterranean. The immense development in the volume of British commercial shipping passing through Mediterranean waters necessitated a corresponding increase at once in the strength of the fleet required to protect it, and Malta became more important year by year as the headquarters of that fleet. A third and still larger dock was, therefore, found to be necessary before many years passed, and a still further extension of Admiralty property had to be sought in some direction to provide a site. This eventually was secured by acquiring the foreshore on the west side of the Senglea peninsula below the old fortification walls. Up to then it had been chiefly used for hauling-up boats and for spreading nets and sails, and on this area a new dock was commenced larger than either of the other two. After some delays it was completed in 1892, and named the "Hamilton Dock," after the First Lord of the Admiralty of that day.

Within six years of the completion of the Hamilton Dock, however, it became evident that even that dock would not suffice to meet the ever-growing requirements of the fleet. Every new type of ship was larger than her predecessor and every year the number of ships on the station increased. The great competition in naval armaments, which lasted for more than 25 years before the outbreak of the present war, had in fact begun, and no man could foretell to what development it might reach. One fact alone was certain; Great Britain could, under no circumstances, afford to be left behind. An entirely new scheme of dockyard extension was therefore planned at Malta on a still vaster scale than any which had preceded it. This comprised the addition of all the land along the water's edge round the head of French Creek right back for some distance from the foreshore to the foot of the western bastion of the Cottonera Lines. Most of this area had been open public ground, and here two new and much larger docks were constructed with all the necessary factories and workshops. The execution of this immense work provided 10 years' employment for a very large army of labourers, and at the same time the building of the St. Elmo and Ricasoli breakwaters was carried out, giving work to many more. During those 10 years, a sum exceeding £3,000,000 was expended in Malta in carrying out extensions for naval requirements on shore, the whole of which expenditure was additional to the ordinary wages of the dockyards, the victualling yard, and the other establishments already employing Maltese workmen.

Moreover, the Admiralty extensions during the second half of the 19th Century were not confined to Dockyard and French Creeks. Soon after the Crimean War, two questions in connection with the naval administration arose which required attention on an ever-increasing scale. The introduction of steam made it necessary to establish supplies of coal in thousands of tons, and, at a later day, of large quantities of fresh water for the modern type of boilers. Space for the storage of all this coal and water had to be found somewhere, and the demand constantly grew from year to year. The Admiralty began, therefore, to acquire land on the west side of French Creek as well as on the east, at first only on a small scale, but by degrees spreading along the side of the harbour in both directions, and ultimately all over the Corradino Heights. This extension was devoted chiefly to the storage of coal and oil fuel, as far as the waterside was concerned. But as regards the Corradino Heights the system of utilization was what might be described as a double-storied arrangement. The ground surface on the top of the hill was converted into a rain-catching area to help to fill tanks containing 40,000 tons of water, and the inside of the hill was excavated to form underground magazines for storage of explosives. The expansion of the Corradino water frontage in Admiralty hands reached by degrees to the point at which it now stands on the north side of the head of the Grand Harbour. In the opposite direction Admiralty property increased by degrees till it was met by the extra area required for the most recently constructed docks at the head of the French Creek. This completed a continuous stretch of foreshore of a length of more than four miles, from St. Angelo at one end to the coal stores at the other, all of which is now in use for naval requirements, except a few gaps at the Marsa end of the Grand Harbour.

Such, then, marks the expansion of Malta as a Naval Base in the period between the second and the third European wars in which England found herself engaged since the day when Malta joined the Empire. That epoch, as we have already seen, marked the transition from sail to steam in the propulsion of ships and from wood to steel in their construction. From the remotest antiquity till the middle of the 19th Century, ships had been built of wood and propelled by the wind or oars. Since then wind and wood have alike been dispensed with, as far as ships of war are concerned. But Malta dockyard has been fully equal to the change, and the quality of the steel workmanship produced at the yard to-day is in every respect equal to that of the wood workmanship in the former epoch.

Of course, the immense extension of Admiralty Establishments necessitated a corresponding increase in the number of men in Admiralty employment. That number during the recent war stood at over 11,000. In other words, whereas the staff of the Naval Establishments was doubled between the first and second of the wars to which reference has been made, it was increased thirty-fold between the second and the third. Whole new departments and branches of naval construction and repair had to be created to meet the introduction of steam and electricity, and all the original departments had to be extended in proportion. A Post-Captain was appointed in succession to the former Master Attendant, whose duties

comprise the entire charge of the berthing and movements of all vessels in Admiralty waters at Malta, and the Civil Staff was increased by the appointment of officers to the charge of the victualling yard and ordnance dépôt. Other new officers included a Chief Engineer and his assistants for the repair of ships' machinery and gun-mounting, and an electrical engineer in charge of the large electrical department of the dockyard. The wages of the workmen reached in 1918 to an average of £20,000 a week, and, as on an average each workman had four dependents on him, we may say that about 50,000 Maltese, men, women, and children, received their daily bread from Admiralty money. Almost as many more were affected in some degree by this great disbursement from the pocket of the British taxpayer, for the dockyard workmen and their families are a source of profit to whole classes of tradesmen and others, even to the farmers and countrymen, besides to the professional classes in those parts of the Island where the workmen reside. To that extent, therefore, does Malta benefit directly by its status as a first class Naval Base. But apart altogether from the money earned by the Maltese working classes in the Naval Establishments, there is the large sum expended every year in Malta by the men of the fleet of which it is the headquarters, a large part of whose pay is spent in the Island and who are chiefly fed on Maltese produce as regards certain articles of their rations. In fact, as already remarked, no other country would have made the same use of Malta as England; and only because the Island is under the British flag does all this money find its way into Maltese pockets. If there are any people, therefore, who choose to believe that the Maltese would have been happier and more prosperous under some other Power, they are embracing a doctrine of political madness, for if, by any turn in the events of the future, this Island again changed hands, one of the first results would be the closing of all the Naval establishments, the withdrawal of all but a small naval force, and the reduction of 50,000 industrious and deserving people to destitution and ruin.

In conclusion, it is perhaps permissible to venture to a few speculations as to the future, although attempts to forecast industrial events are at all times liable to miscarry, and never more so than at such a time as the present, when the whole economic condition of the world is in a state of utter confusion. There does happen to be, however, one branch of industry, in regard to which it seems safe to predict great activity after the war. The British Mercantile Marine has suffered gigantic losses and one of the most urgent requirements of the British Empire is ships of all sizes and classes, from ocean liners to tugs and trawlers. Every shipyard in England and Scotland will be busy for years in meeting this want and there seems to be no good reason why Malta should not bear a part in the work. The Island possesses certain great advantages for shipbuilding by private enterprise, if the necessary capital can be attracted or raised by loan. Four special requisites are necessary for a shipbuilding yard. First of these is a good harbour. Secondly, a sufficient supply of labour. Thirdly, a good site near deep water, with firm foundations for the building ships, and adequate accommodation near by for the factories and

workshops. Fourthly, a position within fair reach of supplies of steel, coal and other raw materials. As regards the first three of these, Malta is very well provided, and even as regards the fourth the position is not bad. An excellent harbour in every respect is available in the Marsamuscetto. A plentiful supply of skilled labour is at hand, willing to work in Malta at less than half the rate of wages paid elsewhere. Admirable sites for a shipbuilding yard exist on Ta Xbiex and Gzira Island, with all the necessary special features, such as firm foundations, deep waters, and an ample area for shops and factories. As regards coal and iron, there is no local supply it is true, but the distance from all sources of supply is not by any means so great as to be a financially insuperable objection where labour of all kinds is so cheap. With all these natural advantages, therefore, and the absolutely certain demand for ships which must arise after the war, capital should find a profitable investment in shipbuilding as a private industry in Malta. This, if developed on a sufficient scale, might bring a long era of prosperity to the Island. It is not easy to see what other form of industry could take its place under such conditions of advantage, and, failing some such outlet for the labour of the large and increasing population, some difficult social problems may very possibly arise in the years of peace, which all must hope are before us.

In addition to shipbuilding it seems not improbable that aircraft building may be an active industry after the war, and one in which Malta might bear a very useful and profitable share. The climate of Malta is favourable for flying on most days in the winter as well as in the summer, in marked contrast of that of Great Britain, and this is a great advantage in carrying out all kinds of tests, trials and experiments in the air, such as are a necessary part of the work of every aircraft factory. In the seaplane construction, which has already been carried out in Malta Dockyard, the Maltese artisans have displayed a degree of skill that suggests that the work is of a kind to which they are peculiarly adapted. If that proves to be the case on further trial it should be of very hopeful augury for the working classes in the Island.

The above are matters which deserve the serious attention of all those who are interested in the future welfare of Malta and the Maltese, and it is much to be hoped that some such projects may materialize. For more than a century British maritime requirements have heaped benefits on the Island. There is every reason to suppose that these are not yet at an end, and that the position of Malta in the British Empire may rise still further in importance in the years which lie before us, if full use is made of its natural advantages.

## THE RE-FORMING ARMY: SOME SUGGESTIONS.

By MAJOR G. D. BAILLIE HAMILTON, The Royal Scots.

NOW that demobilization is in a fair way to become a *fait accompli* and the Army of the future is beginning to take shape and form, a few thoughts may not be out of place, from an infantry officer's point of view, as regards the principles on which that Army is to be organized, trained, and equipped, and also as regards the spiritual and moral factors without which no army can be a real living organism.

It may be taken as a ten-fold proved fact that, whatever changes in strategy and tactics the Great War may bring about (and we are probably still too near to it to see its lessons in those respects in their true perspective), the general principles of discipline and leadership which permeated our Army before the war have been vindicated up to the hilt by the fiery trial of the last five years—a trial, be it remarked, which by no means came to an end at the signing of the armistice. It was those principles which animated and upheld the first Expeditionary Force, and which bound together and inspired the armies which followed on, until at last victory crowned an army in which old and new were merged in one triumphant whole, where the wearing of the King's uniform made all equal in their respective capacities.

It is, therefore, only proposed to put forward, under their appropriate headings a few suggested modifications in the practical application of those principles to the ordinary every-day life of the Army in the years of peace which we hope and trust await us. Let it be remembered, however, that the first duty of a standing army is to maintain peace, and that, whatever may be done towards this by international co-operation, and, still more, by the growth of mutual goodwill amongst nations, classes, and individuals, the ideal of the peace-time forces of the Crown (whether Regular or otherwise) must always be to establish and maintain such a bulwark of efficiency and preparedness as to constitute a "determining factor" in all calculations affecting the peace of the world and the security of the Empire.

### ORGANIZATION.

As regards organization, it is very much to be feared that the obvious basic principle of all national defence—that every subject of the Crown should be at the disposal of the State, if required, during any period of national emergency—has been to some extent allowed to drop out of sight in the deadly paralysis of reaction from which the country is now suffering. How many thousands of lives, and how much needlessly prolonged agony might have been avoided had this principle been fully recognized before, or even at the beginning of the war, instead of being painfully and reluctantly half-learned

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### ORGANIZATION.

As regards organization, it is very much to be feared that the obvious basic principle of all national defence—that every subject of the Crown should be at the disposal of the State, if required, during any period of national emergency—has been to some extent allowed to drop out of sight in the deadly paralysis of reaction from which the country is now suffering. How many thousands of lives, and how much needlessly prolonged agony might have been avoided had this principle been fully recognized before, or even at the beginning of the war, instead of being painfully and reluctantly half-learned

during its progress, can now only be surmised. Let us hope, however, that some seeds of real understanding have, in spite of present appearances, been sown in the national consciousness, and will bear fruit when the ground-swell of after-war confusion and reaction dies down. As it is, we have apparently to contemplate for the present the constitution of the after-war Army on something like pre-war lines, though it is trusted that definite provision will be made for its re-expansion to "national" dimensions in the event of future need. On the assumption, therefore, that we have to cut our peace-time coat according to our cloth, and that the cloth is, roughly speaking, of pre-war size and texture, we will suppose that the re-forming Army will consist, as before, of two main branches, the Regular Forces (with their Reserves) and the Territorial Force. Whether or no there is any possibility of a "third line" being formed, as a development of the Royal Defence Corps and the war-time Volunteers, there can be no doubt that such an organization, if created, would have immense value, both in peace and war; in peace-time to fulfil a somewhat similar rôle to that of the National Guard in the United States, and in war to act as a home defence force in the event of need; in other words, to fill, as regards the latter capacity, the place originally allotted in earlier days to the infantry of the Territorials and of their predecessors, the early Volunteers. Such a force would require a proper complement of mounted troops, artillery, engineers, etc., in order to make it an effective home-defence asset, and arrangements would have to be made for the allotting of the necessary proportions of these arms from the more highly trained branches of the Service; but there seems no reason to doubt that, as far as infantry are concerned, a very valuable home defence force could be raised from men between 40 and 50, with, for some years to come at any rate, a large percentage of officers and N.C.O.'s (if necessary of younger age) of actual war experience: Its personnel would be under liability for service in the United Kingdom only, and would, of course, be on a definite military engagement.

This, however, is only a *desideratum*, and may never become a reality. Let us now turn to the material which we actually have in hand in the shape of the Regular and Territorial Forces.

As regards the former, the general pre-war principles of strategic organization have been abundantly vindicated, admitting as they have of the expansion of the original Expeditionary Force into the mighty armies which followed in its train, while as regards the vital question of the continuous supply of reinforcements, the existing system has undoubtedly worked splendidly. There are some points, however, which may be considered open to comment and possibly to amendment.

1. It should be an accepted axiom that no one should be borne on the strength of a fighting unit who will have to be withdrawn on mobilization owing to "military immaturity," i.e., owing to being under age for service abroad, or not being sufficiently trained.

2. As a corollary to the above, all recruit and young soldier training should be carried out at the *dépôt* (or its equivalent), and

every soldier should join his fighting unit as a trained man, ready to proceed on service with that unit whenever and wherever required. In other words the principles of the war-time "young soldier" and "graduated" battalions should be perpetuated on a smaller scale at the regimental depôts.

3. The fighting establishment of a unit should definitely exclude all ranks whose duties preclude their going into action (under ordinary circumstances) with their unit. All such personnel should be supernumerary to the fighting strength. They are absolutely essential to the welfare of their units, and should be maintained at such a pitch of efficiency as will enable them to defend themselves and whatever is in their charge in an emergency. But there should be no attempt to regard them as "fighting dutymen," and such anomalies as the mess-sergeant or the sergeant-master-tailor being borne on the establishment as "duty" sergeants, should cease. "Regimental employ" should be regarded as an integral and important factor of the life of a regiment, but it should be realized that its duties in war are in the main non-combatant, and no attempt should be made through any false economy to "double the parts." In this connection it would seem worth considering whether the principle of the "Divisional Employment Company" could not with advantage be perpetuated in peace-time, with a view to the efficient carrying out of garrison and other extra-regimental employment without depleting the fighting ranks or interfering with their training. Here again some increased expenditure would probably be found the truest economy.

4. The vital question of the steady supply of reinforcements to units in the field is obviously so dependent on the future constitution of the Army, that any attempt to dogmatize on the subject would be premature until some definite pronouncement is made as to the future relation of peace to war establishments, and as to the sources from which expansion and reinforcement can be derived. It is obvious that one bed-rock difference between the post-war and pre-war situation is that the nation now has, and will have for some years to come, a potential reserve of several million men of various degrees of training and experience. This reserve will, however (on the assumption that it undergoes no "refresher" training), deteriorate in value as time goes on. Moreover, if, as appears only too likely, the peace establishment of the Regular Army at home is maintained at an even lower level than in pre-war days, it will be absolutely imperative to provide for its immediate expansion in emergency by reserves whose state of efficiency will admit of their taking the field at once. In other words, there must be, as before, an Army Reserve on a definite reserve engagement, liable to such annual training as may be considered necessary, and available at once in the event of national emergency. Whatever training is considered necessary for such a reserve should be carried out as far as possible with the units with which they would be called on to serve in war, and in any case with Regular units and not as separate bodies. This principle should apply equally to the Regular and to the "Special" Reserve (if the latter is reconstituted), as well as to any other non-Regular reserve which may be

formed, though the recruit training of such latter reserves should be carried out at the *depôt* or its equivalent. This proposal will probably be strongly resented by many officers who have served in the pre-war Militia and Special Reserve, and who know the pitch of excellence to which many of their units attained; but the only logical principle appears to be that potential reinforcements should train in peace-time with the units which they would be expected to reinforce in war or with their equivalents. Such training, be it long or short, should be carried out so far, simultaneously as to bring units up to war strength for a given period of the year; and this would be desirable both from the Regular and from the Reserve point of view, especially if the future establishment of home units is a low one. The principle should apply to reserve officers, of whatever category, equally as to the men.

On mobilization the *depôt* (or its equivalent) could at once expand to the dimensions of a reserve unit, which might or might not remain at the peace-time *depôt* station, according to circumstances. But the creation of a "third line" force, such as has already been referred to, would obviate the necessity for infantry reserve units to act (except in serious emergency) in the double rôle of draft-finding and home defence formations, and would allow them to concentrate more completely on their primary and vitally important duty of the training and supply of reinforcements. And in this connection, as well as that of the increased accommodation which longer training of recruits and young soldiers at *depôts* would entail, it must be remembered that the emergency buildings erected during the war at nearly every *depôt* could in many cases be converted and made use of permanently without anything like the expense which the erection of new buildings would entail.

The foregoing remarks may seem to be rather a digression from the question of peace-time organization; but such organization must obviously be based on possible war-time requirements, and these must be clearly understood before laying down any peace-time principles.

Whatever may be the future constitution of the "active" reserve, the Officers Training Corps may, we hope, receive in future the attention and encouragement to which the splendid fulfilment of its war-time rôle entitles it. Such encouragement should come both from the military and the educational authorities concerned, the latter by affording increased facilities for drills and training, and by doing all they can to encourage recruiting for their respective contingents, and the former by providing expert supervision and adequate instructional staffs. School and University discipline and *esprit de corps* should be regarded as the natural foundation on which to build military efficiency, and, conversely, military training should react favourably on the psychology and moral tone of the corporate life of the school or college.

As regards the Territorial Force, the general principles of organization for the Regular Army hold good. It may presumably be taken for granted that Territorial engagements will be on a definitely Imperial basis and will include service overseas if necessary in war-time.

The question of the increase of the Permanent Staff so as to admit of there being at least one permanent warrant officer or N.C.O. to each company (or its corresponding unit), in addition to the ordinary "regimental" staff, might well be considered; nor does there seem any reason why, for the present at any rate, appointments to the Permanent Staff should not be opened to carefully selected Territorial warrant and non-commissioned officers of war experience. In fact, a Permanent Staff on the same scale as that of the old Militia would seem a desirable and by no means extravagant ideal. And indeed the Territorial Force should be regarded as the successors of the Militia in the sense that they should be the second line of the Imperial Army, paid for all duties and training which they perform, and regarded as soldiers in every sense of the word whenever they are in the exercise of any military function. Those who remember the essential difference between the old-time Militia and the Volunteers will know how much the latter principle stands for.

#### TRAINING.

The question of training is obviously bound up to a great extent with that of establishments, in that a unit on a low peace establishment cannot, unless temporarily brought up to war strength by its reserves, as previously suggested, take part satisfactorily in field operations on a large scale. But it is devoutly to be hoped that no false considerations of economy may in future be allowed to interfere with the carrying out of training for possible war on as realistic lines as the safety and welfare of the troops permits; in other words, that field training shall not be stultified by the necessity of having trenches represented by canvas screens, or by any of the other money-saving but efficiency-lessening devices which the Army had reluctantly to put up with before the war.

Physical training will probably play a greater part than hitherto in the life of the soldier, and it is well that it should do so, provided always that it does not tend to mere gymnastic specialization or to perfunctory "eye-wash."

It may be worth considering whether, as regards the infantry at any rate, collective field-firing practices should not be definitely separated from the annual musketry course, i.e., that the latter should consist of individual range and field practices only, and that collective practices—in conjunction, of course, with a definite tactical scheme—should form part—preferably the culmination—of company, battalion, and brigade field-training respectively whenever possible. How far considerations of safety would permit of artillery co-operation in divisional field-firing, the writer is not qualified to say. But it seems a desirable principle that the period of field-training of any particular unit should always include, as part of that period and not at a separate time, such field-firing operations as are appropriate to the nature of the training that is being carried out.

The vital importance not only of steady close-order drill but of a due proportion of ceremonial, should receive full recognition in the

future. Drill should be regarded by Regular and non-Regular alike as the handmaid of discipline; and ceremonial should be given its rightful place as the manifestation of something higher still, and as the outward and visible sign of the spiritual life of the Army, and of all which goes to make up that life. There are probably many who will freely acknowledge now that, had the scarlet thread of ceremonial been entwined a little more generously in the drab texture of war-time training, it would have more than made up in moral, mental, and physical value for an hour or two subtracted from the normal weekly programmes. But be it remembered that as drill is the handmaid of discipline so is music of ceremonial, and let no attempt be made to economise unduly by cutting down and starving regimental bands.

It might also be worth considering whether the establishment of infantry units, Regular or otherwise, might not with advantage be increased by the appointment of two "drill sergeants" per battalion, with the same status and duties as in the Brigade of Guards.

It may be suggested that a somewhat more frequent appearance of Colours on parade might be an advantage, more especially in non-Regular units. As an instance in support of this, the writer can quote the case of a most soldierly and efficient reserve battalion whose Colours, however, were, to the best of his belief, never seen on parade during their annual trainings, and to which a man might have belonged for three years (and probably for much longer) without even knowing of their existence.

The absence of Colours was very noticeable at the review of graduated battalions by His Majesty last February before their departure for the Rhine; and though this was due simply to the fact that their issue to these battalions had not then been sanctioned, it seemed rather typical of a certain national lack of appreciation of the value of symbols and of the ritual connected with them. Of all the factors which go to make up the splendid tone of the Brigade of Guards probably not the least is the daily ceremony of the mounting of the King's Guard with its accompanying homage to the Colour; and there need be no fear of any loss of reverence or growth of false sentiment if regiments were to let their Colours be seen a little more frequently than has usually been the case of late years.

As regards the training of the Territorial Force, there must obviously be considerable elasticity to meet local conditions. A definite period in camp, coupled with a definite minimum of annual drills, should, however, as before, be insisted upon; and it ought to be possible to arrange a sliding scale under which scattered units might be required to perform a longer period in camp to compensate for a lesser number of drills. It would be well also, in fixing the compulsory minimum of drills, to insist on their relatively even distribution throughout the year, and not to allow of the "legal minimum" being made up in a hurry during a few weeks by men who have hardly seen their unit during the rest of the year. Now, too, that the nation has become familiarized with the sight of the King's uniform, it seems the right time to insist on all parades being attended in uniform.

Nobody, it is to be hoped, will now think it strange to see a Territorial officer or soldier working in uniform on a Saturday morning before going on parade in the afternoon, and the moral value of such a regulation would go far beyond the mere securing of uniformity, important though that itself is. It would also seem desirable to require N.C.O.'s to attend a definite additional minimum of instructional parades, as a rule separately from the men. The increased Permanent Staff already recommended would find one of its many uses in this respect.

#### DISCIPLINE.

The general principles of discipline have, as already stated, been triumphantly upheld and vindicated during the last five years, not only in the actual theatres of war but in the training camps and garrisons of the Empire. Field-Marshal Lord Haig's concluding despatches emphasize as the essential difference between the "new armies" of this war and those of former campaigns, their discipline—that priceless possession of the Old Army which gradually permeated and cemented the great national army which the war brought into being. The principles of this discipline require no modification, nor does the method of their application seem to need much change in any important particular.

It might be well to include a little more instruction in the principles of military law in the recruit's syllabus, not with the object of breeding "barrack-room lawyers," but so that he may clearly realize that the system by which he is governed is no arbitrary code, but part of the law of the land, differing from the principles of civil law only as far as is necessary to meet the different conditions of military service.

The findings of the "Court-Martial Committee" do not appear to involve any radical change in the procedure of such courts, and bear testimony to the fact (so little grasped by the civilian) that a court-martial is essentially far less liable to prejudice and far more "understanding" than any civil tribunal can ever be. The suggestion, however, that no officer should sit on a court-martial until he is twenty-five years old, though usually feasible in peace-time, would seem difficult of general application in war.

The proposed abolition of the regimental court-martial is the natural sequence of the extended powers given to commanding officers. In this connection the recommendation of a minority report of the above committee, that such powers should be still further increased, is of interest; and, indeed, it is difficult on the face of it to see why the commanding officer of a battalion (or its equivalent) should not be allowed the same relative power as is given to any provincial J.P., and why the existing twenty-eight days' detention, which represents his maximum award, should not be enlarged (subject, of course, to the general right of the accused before the award to elect trial by court-martial) to six months. At first sight the suggestion may seem far-fetched; but if a civilian magistrate, often with little technical training and experience, can be allowed to exercise such powers, surely they might with advantage be given to a commanding officer, who knows the conditions of life and the *milieu* of the men who come

before him far better than any civilian magistrate ever can in the cases with which he has to deal, and who has, moreover, far greater information at his disposal regarding their personality and previous records. An objection to this suggestion, even by those who might otherwise be favourably inclined to it, might be that though all very well in the case of Regular c.o.'s, it might not be advisable to entrust such extended powers to Territorial or other non-Regular officers. It is certainly most undesirable to limit the powers of the latter as compared with those of the former; to do so would be to encourage the "half-and-half" ideas, which did so much harm in the pre-war Territorial and Volunteer forces. It must be remembered, too, that for some years to come non-Regular units will, we hope, be commanded by officers who have continuous war-time experience behind them, and who will be able to hand down to their successors a legacy of discipline and administration which will serve as a lasting guide and precedent for those who in years to come have not such qualifications. In any case the suggestion is only offered for what it is worth.

As regards the minor details of court-martial procedure, the suggestion is made that the accused and escort should invariably be allowed to be seated during the proceedings, except at the administration of the oath, and when the accused is being questioned or giving evidence himself. It is true that the prisoner in a civil court normally stands; but he is not in uniform and has not to stand either at attention or "properly at ease." As a matter of fact the accused and escort are nearly always given leave to sit if the trial seems likely to be protracted; but it is suggested that a nervous (and possibly innocent) man would be given more confidence if he were allowed as a matter of course to sit from the beginning except at the times above mentioned. If this were adopted as a general rule, however, permission to sit should be given formally by the President.

Another suggestion—made to the writer by a brother officer—is that confinement to barracks, as it at present exists, should be done away with, and this seems to have a good deal to recommend it. It is to be doubted whether, in a large number of cases, awards of "C.B." do not merely act as a dull irritant and not as either a deterrent or a corrective. Most of us can call to mind cases of continually-appearing "minor offenders," not necessarily of really bad character, on whom repeated doses of "C.B." have had little or no effect; and it seems at any rate worth considering whether the active service penalty of deprivation of pay (apart from automatic forfeitures under Royal Warrant for absence) might not well be continued in peace-time in substitution for the existing "C.B.," but accompanied, nevertheless, by the deprivation of certain privileges (such as sleeping out) for the period for which pay was forfeited and by liability during that period to all fatigues and similar duties, for which well-conducted men would otherwise have to be taken. In other words, a man deprived of (say) three days' pay, though not actually confined to barracks by day during that period, would forfeit all special privileges and would automatically render himself liable to any casual fatigues or duties for which he might be required.

And in this connection it might perhaps be worth considering whether it could not be definitely established that once a "minor" punishment is itself finished, there should be no after-effects of stoppage of leave on account of the entry in the conduct sheet, and that such after-effects (if necessary at all) should be reserved for awards of detention only, and then should not exceed the actual period of the award, i.e., that a man awarded twenty-eight days' detention should forfeit all leave, etc., privileges for the twenty-eight days after the expiration of the sentence, and so on, the period of the forfeiture, however, not in any case to exceed three months.

It may be added that the substitution of deprivation of pay for "C.B." would be of use in non-Regular units, whose short periods of training make awards of "C.B." comparatively futile. Provision might also be made as regards such units for the award of fines up to the equivalent of seven days' pay for minor offences committed when performing non-continuous military duty, such as weekly drills.

The writer is of opinion that men undergoing detention with their unit should be liable to attend all field training parades, except, perhaps, actual field-firing. This would apply more specially to non-Regular units, whose C.O.'s might otherwise be divided between the need of adequately maintaining discipline and the importance of securing all possible training for every man under their command. This would also, of course, hold good in the case of reservists training with a Regular unit.

Another point on which fresh legislation might be advisable is the provision of some means for dealing with cases of assault, etc., on former superiors by men who have themselves ceased to be under military law. Such cases are not unknown even in peace-time, and could be met, at any rate to a considerable extent, by empowering civil magistrates to deal summarily, but as military offences, with minor cases, and to hand serious offenders over to the military authorities for trial by court-martial. It is believed that legislation to this effect exists in the French Army; and it should be applicable to any attempt at violence towards former superiors on the part of men who have temporarily or otherwise resumed a civil status, it being immaterial whether the object of the violence is himself still serving at the time or not.

#### DRESS AND EQUIPMENT.

The question of dress and equipment is now *sub judice*, and presumably a definite pronouncement on the subject may be expected before long. It is devoutly to be hoped that, whatever necessary concessions are made to the demands of economy, the King's scarlet may soon be again in evidence, and that full dress may resume its most important rôle in the life of the Army.

In an ideal army, unhampered by the crying need for economy, an "intermediate" dress, such as blue serge for infantry of the line and some equivalent for other units, might well be used for ordinary "drill order" parades in barracks, the "review order" belt, etc., being worn with it, and the serge worn without the belt when walking

out on week-days. This, however, is obviously out of the question just now, even if it were in itself considered desirable; and it may be taken for granted that "service dress" will be, as before, the ordinary every-day wear of the soldier.

It is a very difficult question whether some modification of the pre-war orders as regards walking-out dress could be made without detriment to smartness and "moral" in general. It cannot be denied that the compulsory wearing of the full dress tunic and belt when walking out entails a good deal of trouble and constraint to the wearer. The question is how far other considerations counter-balance this. On the whole, though somewhat reluctantly, the writer is of opinion that the former walking-out order or service dress should be optional on ordinary week days, except, presumably, for the Household Cavalry and Brigade of Guards when in London or Windsor, full dress (i.e., full walking-out dress) being compulsory on Sundays and on such days of "national observance" as the King's birthday, as well, possibly, as on special regimental anniversaries. If this were sanctioned, it might perhaps be considered whether a detachable belt or girdle of service dress material, corresponding to the belt of a Norfolk jacket, could, for infantry, replace the "Webb" belt when walking out in service dress; and in this connection it must be remembered that a well-fitting khaki jacket will in peace-time presumably be the rule and not the exception.

It is understood that the question of head-dress is now under general consideration. As regards "review order" it is to be hoped that economy will entail as little doing away with genuine regimental or corps distinctions as possible. For other occasions, the "tin hat" is presumably the permanent fighting head-dress of the Army, at any rate in non-tropical climates, and the question of "visibility" for the field service cap is therefore no longer a vital one. The requirements for such a cap are smartness, comfort, compactness, and adequate protection against sun and rain. Personally, the writer hopes that the withdrawal of the "Glengarry" from the rank and file of Scottish units will prove to be only a temporary measure; it is true that it does not completely fulfil all the requirements mentioned above, but it is doubtful if a smarter or more comfortable undress cap exists.

It is not known whether the present English field service cap, in either its stiff or its soft form is to be retained. If not it might be considered whether the former field service cap, similar to that now worn by the Royal Air Force, might not well be reintroduced, in blue, green, or some corresponding colour (according to the unit) for full dress walking-out purposes, and with a khaki cover, or, better still, a khaki duplicate, for wear with service dress. This cap has the great advantage of being easily carried in a pack or haversack, is light, smart, and, with the flaps let down, offers very fair protection against weather, while the back flap of the cap can serve as a "curtain" against the sun.

As regards equipment, the "Webb" pattern has stood the greatest test ever known splendidly, and any changes in it will probably be

only of detail. The leather braces, etc., may, it is hoped, be regarded as a makeshift only, and be seen no more in future.

There seems some room for improvement in the present type of water-bottle as well as in the material for covering it and keeping it cool.

As a last word on the subject of dress, the writer would like to put forward the suggestion that on leaving the Colours, except on discharge for misconduct or inefficiency, or in the case of recruits or young soldiers with less than a year's service, a soldier (Regular or otherwise) should be allowed to take with him his full walking-out dress and great coat (as well as the pair of boots and other articles already allowed), and that men should be allowed to wear these on days of "national observance," and possibly on the occasion of regimental, etc., gatherings. Some legislation as regards this would probably be necessary, firstly to determine what days should come under the above heading, and secondly to prevent irregularities. As regards the latter, only men who took a pride in their Service and uniform would be likely to wish to avail themselves of the privilege; but possible abuse of it might be prevented by making the wearing of uniform on unauthorized days an offence punishable by civil law, and by enacting that men wearing uniform on authorized occasions should be subject to military law while doing so, as if still serving, conviction for any irregularity, whether civil or military, committed whilst in uniform automatically entailing the return of the uniform to the State and the forfeiture of the right to wear it. The possibility of such uniform being worn by civilians is already provided against. This, of course, means further expense and may perhaps be looked upon as in any case unpractical; but in the writer's opinion the expense would be more than repaid by the good which such a concession would bring, both to the Service and to the nation. A start has already potentially been made by the fact that demobilized men retain a suit of service dress, etc.; and, should any such privilege be sanctioned, there would be no fear of men who had khaki only being placed at a disadvantage as compared with those who had full dress, as everyone would know quite well that their khaki stood for "war service" only, and was equally honourable as the scarlet or other colour of the permanent Regular or Territorial.

This article has already taken up much more space than was originally expected, and the writer will therefore try and condense the rest of it, giving a few remaining suggestions as briefly as possible.

#### RATIONS AND MESSING.

The pre-war system was already excellent and seems to require little improvement. Definite provision might perhaps be made for a "free issue" of tea or coffee and biscuit before early morning parades. Some "free ticket" system for obtaining hot suppers in barracks might possibly be advisable. This is, however, more an academic suggestion than otherwise, as practically every unit in peace-time has arrangements under which excellent suppers can be obtained at an

almost nominal price at the regimental supper bar, and there is therefore not much tangible ground for the suggestion sometimes made, that if the State undertakes to feed the soldier, it should provide a later and more substantial meal for those who want it than has hitherto been available.

It is taken for granted that the dining-hall system, as opposed to messing in ordinary barrack-rooms, will now be universal.

#### LEAVE AND SLEEPING-OUT.

It is to be hoped that pre-war restrictions as regards the latter may be modified to the extent of abolishing the general tattoo and réveillé roll-calls at home stations, except for men definitely required for, or "waiting" duty (this to include defaulters), or in the case of actual or possible emergency requiring troops to be in readiness. This reform has already been strongly advocated by the late Field-Marshal Sir Evelyn Wood. Any tendency to its abuse could be counteracted by tightening up disciplinary measures for dealing with absence and other irregularities in connection with it, and by generally making the indulgence unprofitable for men who are undeserving of it. How far such a privilege could—or should—be extended to foreign stations must necessarily depend on local circumstances and conditions; but in home stations, under ordinary peace conditions, there seems no reason why a man should necessarily be expected to sleep in barracks if not required there for definite military reasons. Sleeping-out should, however, except when on pass or furlough away from the station, be ordinarily restricted to the limits of a fixed radius from barracks.

It might also be laid down that, for Regular troops at any rate, except when at musketry, field-firing, or manoeuvres, ordinary parades, etc., should usually come to an end by mid-day on Saturdays and not recommence before nine a.m. on Mondays, thus giving men more chance of getting a clear one and a half day's "week-end." It must, however, always be remembered that such concessions, and indeed all grants of leave, are privileges and not rights.

While talking of leave, it is hoped that the war-time half-fare railway tickets may be continued, with due provision against their abuse, for all ranks, Regular or otherwise, when on full-pay leave or furlough, provision being also made for the privilege to include officers travelling on leave in mufti, as was the case on many railway systems before the war. It is also suggested that "free" travelling should be continued for men proceeding on or returning from furlough prior to embarkation for service abroad, and on return from such service, and possibly also for recruits on the completion of three months' service if considered efficient.

#### BARRACK ACCOMMODATION, ETC.

All existing barracks, as well as any to be constructed, will, it is hoped, be fitted with cubicles whenever practicable. The privacy of the occupier should be respected as much as possible, subject to the usual

daily inspection, and all reasonable attempts encouraged at individual ornamentation by photographs, pictures, or otherwise. Larger and better furnished cubicles could possibly be provided for unmarried N.C.O.'s.

The question of married quarters and of the married establishment in general is too complicated to be discussed here, though the writer hopes that any changes made will be in the direction of increased facilities for marriage for the "private man." It may, at any rate, be suggested that on change of station at home "free" travelling should be conceded to married families off the strength as well as to those on it.

#### DUTIES, ETC., IN BARRACKS.

The principle of the "company (or corresponding unit) on duty" should be made the most of. This company should, as far as possible, find all ordinary duties and fatigues for the day, as well as being available for such additional duties as might be required at short notice. To it should be attached for the above purposes all defaulters of other companies. The men of this company would not necessarily be kept in barracks by day, except when definitely required for duty, but should sleep in and attend tattoo and *réveillé* roll-calls.

The war has called special attention to the necessity for adequate fire organization in barracks, etc. It would seem advisable that the principles of the "Army Fire Manual" should be amplified to the extent of giving all ranks a rather increased amount of elementary instruction in the use of the local fire appliances, laying out hose, etc., and that in each company, or corresponding unit, there should be a small proportion of N.C.O.'s and men, who have received more advanced training at the hands of a permanent fire-brigade instructor. Such instruction might either be given at Aldershot, or anywhere where permanent military fire brigades exist, or by a professional civil fire-brigade officer. Extra duty pay might be granted to such men if duly qualified as proficient, and a proportion of them (e.g., those belonging to the company, etc., on duty) should when necessary remain in barracks daily. Belts, axes, and hose-spanners might also be provided for them, the "tin hat" being available as a fire helmet in case of need.

#### CHURCH PARADES.

As a closing suggestion, the writer would call attention to the often discussed question of the advisability or otherwise of the retention of compulsory Church Parades. A good many of the arguments in favour of their abolition are not particularly impressive and are brought forward from an essentially irrelevant point of view. The one and only consideration which should influence a decision on this point is whether Church Parades, as they at present exist, are conducive to the real worship of God, and to the spiritual welfare of the individual. The writer, speaking as an Anglican Churchman, considers that on the whole they are not, though the very last thing that

is intended to be conveyed is any reflection on either the chaplains who conduct them or their congregations. Such a view, however, is merely that of a layman, and any change in the existing practice should be the result of an adequate consensus of opinion on the part of those best qualified to judge—the Chaplains to the Forces of both peace and war-time experience. Whether compulsory Church Parades remain or not, it is hoped that more definite facilities may be given to men who wish to attend early services, and that the orders for Sunday walking-out dress may be relaxed to permit of their attending such services (if before, say, ten a.m.) in service dress, whether the church is within the limits of the garrison or otherwise.

The above suggestions are put forward for what they are worth, which is probably not very much. They are, as already stated, made from the point of view of an infantry officer, and in some particulars apply chiefly, if not wholly, to that arm. In any case they are merely offered as a contribution to the common fund of legitimate speculation and discussion as regards the future of the Service, in which all soldiers must at this time of transition be interested.



## SPECULATIONS—I.

By LIEUTENANT W. S. KING-HALL, Royal Navy.

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### FOREWORD.

THE following speculative notes deal with an aspect of future warfare belonging to the transition period in the change from muscular armies to mechanical armies.

These notes are the result of speculations as to what may happen when the tank ashore has reached a position of importance equal to that attained by the submarine in sea warfare to-day.

For this reason the "Transport Tank" is considered at some length. In the far future the actual destruction of enemy communications which feed armies of foot and horse soldiers will be unnecessary, because there will be no foot and horse soldiers except for ceremonial purposes. These men will then be regarded much as to-day we regard the beefeaters.

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In the course of the last war several million men endeavoured to destroy each other in France, and during the four years which elapsed before the German Field Army was broken in battle, there were periods when the situation reminded one of the old conundrum—"What happens if an irresistible force meets an immovable body?"

These great masses of men who fought face to face can be compared to two blocks of granite revolving on delicate spindles.

If one side could have ruptured the enemy's spindle the granite block would have fallen helpless to the ground.

But neither side could get on the enemy's line of communication and operate thereon with effect.

This statement should perhaps be qualified to the extent that there was no physical reason preventing the Germans operating on that portion of our lines of communication which ran across the Channel waters—for some reason they never attempted the feat, though if an attempt had been made in the critical days of March, 1918, it might have changed the course of the war. From the British point of view the problem of how to rupture the enemy's communication was purely military.

Behind the German front stretched roads and railways, sensitive to attack as a raw nerve to the touch, but, broadly speaking, these communications remained in working order up to the end.

The Air Force did their utmost, but compared to the steady stream of movement which took place day after day and particularly night after night the damming effect of the air raids upon the flow was slight.

The Air Force were handicapped in that they were instruments obliged to remain in the air, yet unable to hover, whilst attacking movements and traffic lines which remained on the ground.

To rupture communications behind an army of many corps so that the safety of the whole army, or even one of its corps, is in jeopardy requires a considerable concentration of power at the most vital spots along the lines of communication; and further, this concentration must remain there and carry on its work of destruction for some time.

A transitory attack such as might be delivered at a road or rail junction by a strong force of aeroplanes may seriously inconvenience the enemy, but unless the latter is very improvident it will not cause his batteries to run short of shell or his troops to have empty bellies. Ten thousand men properly equipped and operating fifty miles in rear of even a very big army might cause great dislocation of enemy communications with correspondingly fruitful results.

In the last war it was impossible on the Western Front to throw ten thousand men on to the enemy's lines of communications. Four methods of attempting this were available; each had objections:—

- (1) *The men could have tried to walk there.*

Objection—

- (a) They would have been shot in the first mile.

- (2) *The men might have tried to fly there.*

Objections—

- (a) State of aircraft development necessitated too many aeroplanes being used.

- (b) Difficulty of landing 1,000 'planes.

- (c) Impossibility of carrying necessary equipment to enable the force either to remain for a period on the lines of communication, or to do the maximum amount of damage whilst they were there.

- (3) *The men might have attempted to ride there on horses.*  
(They succeeded in Palestine.)

Objections—

- (a) Rather slow.

- (b) Impossible to penetrate enemy's line unless he was in a state of utter confusion.

- (c) Horses are a nuisance.

- (d) Difficulty of carrying equipment necessary to smash up well-protected communications.

- (4) *The men could have tried to get on the enemy's lines of communication in Tanks.*

Objections—

- (a) In 1917-18 the Tank was slow.

- (b) Not sufficient numbers of them available.

- (c) The instrument was still too crude.

So, for the reasons outlined above, together with others not mentioned, the records of the great war on the Western Front do not contain any account of raids on the enemy's communications on the large scale.

What of the future?

The physical properties of man and his horse remain unchanged, therefore methods (1) and (3) may be eliminated. In mechanics we advance from year to year, therefore methods (2) and (4) are of potential interest.

Of these two methods it is the writer's personal opinion that the use of Tanks for raiding communications will give greater results than the use of aircraft. Briefly the reasons for this belief are as follows:—

- (1) The Tank operates in the same plane in which the communications move.
- (2) A "battle" Tank is and will be a more powerful offensive instrument than a "battle" plane, in land warfare.
- (3) A "transport" Tank has a greater carrying capacity than a transport aeroplane.
- (4) There is no reason why a Tank should not be produced to-day capable of travelling across country at twenty miles per hour for 200 miles.
- (5) It can carry within its hold perhaps fifty men.

These figures will doubtless be exceeded in the near future, the time interval between now and that day being directly proportional to the amount of money available for experiment.

Let it be assumed that we have at our disposal for purposes of imagination four types of Tanks:—

- (a) The transport Tank.
- (b) The scout Tank.
- (c) The battle Tank.
- (d) The auxiliary Tank.

It is suggested that the transport Tank will have capacity for 100 men, and a speed of thirty miles per hour. Its function, like that of the transport at sea, will be to convey man-power to the selected spot, viz., a nerve centre on the enemy's lines of communication. Therefore, its first essentials are capacity and speed combined with reasonable protection for its cargo. Its armour will probably be sufficient to keep out bullets from portable guns, but not anything in the nature of shell. Its armament would be limited to machine-guns, which would enable it to defend itself from attacks by exposed enemy soldiers.

To convey 10,000 men would require about 125 transport Tanks. To move 125 Tanks, ships, motor cars or any other form of conveyance from one place to another requires organization. The transport Tanks would have to be divided up into divisions and sub-divisions.

The author is not aware what experiments have been carried out in this respect, but it is suggested that if each Tank be given 150 feet of line ahead space then the convoy could proceed in six divisions. Tanks in division in line ahead, divisions disposed abeam. The suggested

space between divisions is 100 yards. It would be as perilous to despatch an unprotected convoy of transport Tanks, such as outlined above, into the enemy country as it would be to send a convoy of troopships without escort across a stretch of sea.

The degree of safety with which 10,000 troops are carried across an area of sea depends upon the extent to which control is exercised in that area. If control at sea is complete, as it was for Britain in the Boer War, troop convoys can be safely sent great distances with weak local escorts, or even unescorted. If control is disputed, as it was in the last war, then each convoy must have a local escort to protect it from sporadic attack; and in addition, the main battle fleet endeavours to destroy the enemy battle fleet, because if that act can be accomplished the exercise of control all over the seas will be the easier.

It will be the same on land. The convoy of transport Tanks, moving rapidly across country, will have certain enemies.

If it is desired to launch an attack with men in transport Tanks upon lines of communication which are vital to the safety of a large enemy force, it is to be expected that the enemy will dispute the passage of the convoy with all means at his disposal.

Unless the geographical situation is exceptionally favourable to the enemy, fixed defences will not pay him as a weapon against Tanks, any more than fixed defences (including minefields) can prevent a manifestation of naval power by a fleet or convoy of transports moving across water, except in special cases such as the Dardanelles. The only way open to the enemy in which he can defend a line of communication against attack by men in Tanks is to have a Tank battle fleet, and with it defeat our Tank battle fleet.

If the enemy can do this, he will then be able to destroy the transport Tanks at his leisure. Similarly, before we send out the convoy, it will be necessary to mask or destroy the enemy Tank battle fleet. Therefore, the operations involved in carrying out an attack on the enemy's communications will consist of:—

- (1) The elimination of the enemy's Tank fleet.
- (2) The despatch of the convoy.
- (3) Provision of local escort for the convoy whilst the latter is tanking to its objective in case any of the enemy Tank fleet evade our own battle fleet, and to protect the convoy from low-flying armoured bombers.

It will be dependent upon general circumstances whether the Tank battle fleet and the convoy move in company. If possible it will be better from the tactical point of view that they operate separately.

The enemies of the transport Tanks will be:—

- (a) Aircraft.
- (b) Enemy battle Tanks.
- (c) Artillery not in Tanks.

(a) and (b) will be the most dangerous, for they alone will have the same or greater rapidity than the transport Tanks, together with

the power of destroying the convoy; (c) will be dangerous, indeed fatal, to the convoy if the latter gets within range of the guns. But a convoy will evade a battery if it knows the latter's position; therefore the battery will be concealed, hoping to ambush the convoy. The analogy with a submarine is striking. The submarine under water is slower than the surface ship, and relies for success upon its invisibility; if the ship has information of the submarine's position she usually succeeds in evading underwater attack. So that, as regards protection from artillery, the convoy of transport Tanks will rely upon information which will enable them to evade the enemy batteries, or, if the latter command an area through which the convoy *must pass*, then steps must be taken to eliminate the enemy's guns or their personnel before the convoy comes into the area.

As regards battle Tanks it seems well within the possibilities that in the near future they will be armed with two 4-in., perhaps 4.7-in. or 6-in. short-calibre guns, three or four inches of armour over vitals, and a speed of thirty miles per hour over level ground. The difficulty to be overcome when designing battle Tanks with heavier armament and armour is that the weight carried per square foot of moving track must be kept below a certain limit. If the weight of the hull and armament is increased the track area must be similarly increased. There would appear to be three ways of achieving this:—

- (a) Increase in length of Tanks.
- (b) Increase in beam of Tanks.
- (c) Re-design of track system.

(a) and (b) are certainly the simplest methods, and whilst they each have objections, just as the increase in size of the capital ship at sea has made her draw more water, cost more, require big docks and harbours, etc., the increases in (a) and (b) have certain advantages. Within the limits permissible by the requirements of longitudinal strength increased length makes it easier for the Tanks to cross wide, deep trenches. Increased beam makes for more room in rear of the guns and might permit of a gun on top of the Tank with an all-round field of fire.

A time will come in development when the battle Tank's armament will tend to reach a calibre for which the ammunition will be very heavy. It is not thought likely that within the time limit of this speculation battle Tanks will be armed with power-worked guns, but if a 6-in. armament be considered, this being the limit of hand working, 200 shells at 100 lbs. each would be a big weight and occupy much space.

It is conceivable that the battle Tank may tow a magazine Tank behind it, if the ammunition becomes very heavy.

It was said that if raids on communications with transport Tanks are to take place, a battle for the "command of the land" between battle Tanks is a likely event. The tactics of such a battle will now be considered.

The possible development of the battle Tank has already been briefly discussed. Difficult though it may be to prophesy exactly

her mechanical details, we cannot go wrong in stating that, like her sister at sea, the battle Tank will from year to year embody in herself the maximum fighting power; that is to say, the best combination of armament, speed, and protection admitted by technical limitations at the date of her construction.

In considering battle tactics there are two points to be remembered :—

- (1) Numbers of the unit required to work together.
- (2) Capabilities of the units.

In naval warfare to-day we think that a battle fleet of forty capital ships a great force, but in the Peloponnesian wars fleets contained thousands of vessels. As far as my knowledge goes it is a fact that throughout history, irrespective of the number of ships engaged, the limit of length of the battle formation has been between five and ten miles, i.e., about normal visibility.

In this analogy it is suggested that, under the best conditions, the Tank battle line will not be more than 15,000 yards long. At one Tank per hundred yards this gives a force of 150 Tanks. This number will seem small to anyone accustomed to think of Tanks in thousands, but doubtless a captain of a trireme, several centuries B.C., not having seen a modern battle fleet at sea, would be inclined to scoff at a battle line of forty ships. As regards the second point which must be considered in deducing battle tactics, i.e., the capabilities of the unit, the battle Tank will be well nigh as tactically incomplete in herself as is a modern battleship.

Designed for battle, the "Capital Tank" will have to rely upon other instruments for the service of information and for certain services during the battle itself, just as the battle fleets at sea rely upon their light cruiser and aerial screens for information, and upon their destroyers, fighting planes, and cruisers for various tactical purposes in battle.

In Tank warfare the battle Tanks will advance under cover of a screen of fast-scouting Tanks, lineal descendants of the present-day whippets. Still further in advance an aerial screen will doubtless be employed. The scouts must be designed to fulfil three requirements :—

- (1) High speed.
- (2) Good communications.
- (3) Land-worthy.

By (3) is meant that they must be capable of negotiating difficult obstacles so that they may thoroughly examine all the ground in advance of the Tank battle fleet. Their discoveries are useless unless communicated in a certain and speedy manner to the C.-in-C., Tanks; therefore good communications are necessary.

The chief duty of the scout Tanks as regards the service of information will be to examine ground which cannot be properly surveyed by the aircraft screen. The C.-in-C., Tanks, will rely more upon his aircraft screen for reports of the enemy Tank fleet than upon his scout Tanks, but it must be remembered that in certain weather

aircraft operations will be at a discount; under these conditions the scout Tanks will have to use every endeavour to get through or round the enemy screen and sight the enemy battle Tanks.

Speculations as to how the scout Tanks will operate on the screen would require more space than is available here. When battle is joined, the scout Tanks will have other duties which will be described when more has been written as to the battle itself.

How will 150 Tanks fight each other? Obviously not in one huge *melée*, Red *versus* Blue and everyone for himself. Whichever side fights in the best tactical manner will defeat their opponents, other things being equal. (Compare the steady development in aerial tactics, from the day when pilots shot at each other with revolvers up to the methods of the present time.)

The difficulty in forecasting future tactics lies in the fact that tactics influence weapons and weapons influence tactics, hence we must resolve an equation with both "x" and "y" as unknown!

It has been assumed that the gun as understood to-day will be the primary weapon of the battle Tank during the next ten years. Upon the disposition of the guns in the Tank much depends.

Tactically it would be desirable to have all-round fire. Constructionally this will probably be difficult, but if a battle Tank is armed with two heavy guns it should not be beyond the craft of the engineers to arrange them so that one has an arc of fire from 120 deg. left through right ahead to 120 deg. right, whilst the other sweeps from 60 deg. left through right astern to 60 deg. right. With this arrangement of armament the Tank would have arc of fire for both guns of 30 deg. each side of the beam bearing. Consequently, some form of line ahead would be a necessary formation in order to develop maximum gun-fire. However, it is not thought that in future Tank battles the fleets will get into one unbroken line, or line of divisions, and fire at each other like sea fleets.

This belief is founded upon the following facts:—

- (1) The speed will be high on both sides, somewhat higher than the speed of sea battle lines.
- (2) The range will be shorter than sea ranges.
- (3) The land, unlike the sea, is not usually entirely flat.

This last point will be of the utmost importance in Tank tactics.

It has already been hinted that though the Tank commander will be spared the menace of sub-earth attack he will have to consider situations somewhat similar in principle to those which confront an admiral who is handling a surface fleet in waters infested by enemy submarines.

The matter of concealed artillery was mentioned as a danger to cruising Tanks.

In battle (except on open plains) the contours of the land and the presence of water will have great influence. In undulating country it will be neither feasible nor advantageous for a Tank fleet to attempt to go into battle in one long line. Individual divisions of Tanks should fight in line ahead or in quarter line, but once battle is joined

the divisional commanders will have to operate independently to a far greater degree than they do at present in sea warfare.

Having stated that the tactical formation of a division of Tanks will be line ahead, some idea germinates as to how the fleet will approach battle. The main requirement of an approach formation is that at the correct moment the fleet shall be able to change from cruising to battle formation in the shortest possible time.

Here again "ground formation" plays an important part.

Three cases will be considered:—

I.—*Very bad Tank ground*, i.e., swampy ground with a narrow, firm area through it, or ravines through hills.

In this case double or single line ahead with a fast division of Tanks leading and in rear would be the proper formation, as the frontage of advance must be small. On sighting the enemy, the van and rear diverge and leave the centre free.

II.—*Average to indifferent Tank ground*, i.e., broken moorland with streams, hills, or woody country.

In this case the formation of the phalanx is suggested, the fast divisions being in the centre.

III.—*Good Tank ground*, i.e., undulating, open country or flat plains.

The formation suggested is either simple line abreast or divisions in line abreast.

In battle it was stated that the divisions will work independently, the more undulating the ground the more will this be so. This is not intended to mean that divisions will not support each other; what it does mean is that, as divisions will often be out of sight of each other, such support will be difficult. Further, one division if being pressed by superior force must try not to be driven into a position in which by reason of a river or other obstacle the other divisions cannot get to its support.

These thoughts lead to the conclusion that in a Tank battle nothing will be of greater importance than communications between divisional commanders and the C.-in-C., Tanks, and what may be described as "ground" tactics.

For the purpose of communication between divisions, wireless telephony may be practicable, also rockets, etc., but many cases will probably arise in which messages will have to be conveyed by whippet Tanks.

The Commander-in-Chief's Tank in a big fleet of Tanks will probably carry no guns larger than machine-guns. Qualities of roominess, armour, speed, and signalling devices will usurp space and weight to such an extent that gun-power will have to be sacrificed. The C.-in-C., Tanks, may perhaps choose to get into the air.

Further speculation on the detailed course of the battle would be tedious. The following suggestions seem worthy of examination by anyone interested in this matter:—

I.—Tactical details of the gun-fight between two divisions of Tanks.

- (a) Gun control.
- (b) Concentration of fire.
- (c) Battle communication between Tanks in a division.
- (d) The value of speed.
- (e) The choice of soil with reference to speed.
- (f) The use of smoke.
- (g) Zig-zagging.

II.—Attack and defence of battle Tanks by scout Tanks firing pom-poms at close range, or hurling howitzer bombs at close range (c.f. this slow-moving projectile with the torpedo in sea war.)

III.—The possibility of leading the enemy over contact or electromagnetic mines previously concealed in undergrowth by Tank mine layers.

IV.—The use of gas Tanks, etc., etc.

CONCLUSION.

The author's conclusion of this business is that we are approaching a period in the history of warfare when certain land tactics will have much in common with those of sea fighting.

It has been said that all things move in cycles; one thousand years ago sea tactics were copied from those of land warfare. May we not be half way round the circle at the present time?

It is, of course, a matter for consideration whether in the more or less remote future all land fighting will not be done in Tanks, but this development will take place gradually; the foregoing speculations seem to the author as likely to be facts within about seven to ten years, at which time we shall be in the transition stage between the old land fighting and the complete Tank fighting.

Gradually, as the communications of the P.B.I. become more and more the object of Tank battles, all the infantry will get into Tanks or aircraft, and we shall have defended Tank ports and bases on land, with fleets and squadrons cruising in the intervening country to clear the way for the great armadas of Tanks with which one continental nation will invade the other, in order to win the war by attacking the civil population in the enemy country.

This attack on the civil population will probably take place in the following manner:—

The invading forces, having broken their enemy's Tank fleet in battle, will advance into the hostile country and systematically gas every living thing within a given area of, say, fifty square miles. If the enemy did not capitulate another area would be laid waste, and so on.

But I am trespassing on a field of thought worthy of Speculation No. II.

## THE CAMPAIGN OF 1918 IN FRANCE.

By MAJOR T. E. COMPTON.

THE more one learns of the campaign of 1918 in France, the more one ponders on the imminent danger to the Allies of the early months of the campaign and on the remarkable recovery of the initiative by Marshal Foch in July, admirably exploited, the more convincing, it seems to the present writer, will appear the outstanding importance of two factors in assuring, as the end of the Titanic conflict, the final victory of the Allies. These factors were (1) the appointment of a single chief to command the Allied forces on the Western Front, including Italy, and (2) the improvement, increase in numbers and variety (at least three different types)<sup>1</sup> of the Tanks, or, as the French call them, *chars-d'assaut*.

There can be little doubt that, of the two, the first was the most essential factor, for, although in July and subsequently the new Tanks took the place of the first assaulting columns and spread terror among the German units, the enemy, it must be remembered, had previously broken the Allied front, tactically, on at least two occasions by sheer force of numbers (troops having gone through a course of careful preliminary training in a new form of attack), and in two other offensives (April 9th and June 9th) had gained substantial advantages generally, if not completely, without Tanks.<sup>2</sup>

On the other hand, unity of command and the co-ordination of effectives by one mind quite possibly saved the campaign twice for the Allies: at the very commencement of the struggle in March, and again in April in Picardy and in Flanders.

Marshal Joffre, during his period of command—two years and a quarter—had shown much the same character and qualities that have distinguished Marshal Foch. It is quite possible that he might have done as well; but one thing is quite certain—he could not have done better. Before the campaign began, Marshal Joffre, by reason of his rank and authority, might perhaps have been more acceptable as Generalissimo to the other Allied commanders. But after it had begun it was inevitable that the choice must fall on General Foch, because not only was he the Chief of Staff to the French Government, but he was very much a *persona grata* to M. Clemenceau, the Premier and War Minister. Long before the Great War, M. Clemenceau, during his first prime-ministership, when anti-clericalism was very strong in France, had had the wisdom and breadth of mind to appoint General Foch Chief of the French Staff College, although he was a

<sup>1</sup>The French had medium Tanks by two makers and light Tanks by three makers, but chiefly by Renault.

<sup>2</sup>The Germans employed many of their big Tanks against the French Fourth Army on July 15th with disastrous result to the Tanks.

fervent Catholic with a brother a Jesuit. "I am not appointing your brother," M. Clemenceau is said to have replied to General Foch's voluntary admission, "I am appointing you; and all I ask of you is to turn me out good Staff officers."<sup>1</sup>

He had commanded an army brilliantly at the Battle of the Marne, and in that sense was the senior of all the Allied Generals serving at the front, except de Castelnau.

But it was extraordinary how jealous were the Allied Governments of any interference on the part of an ally between them and their national armies. Marshal Foch was not appointed at all until the British front was broken at its point of junction with that of the French, and then, on March 26th, he was only appointed *co-ordonateur supérieur*. His powers were enlarged on April 14th; but it was not till May 2nd that the principle of unity of command was carried to its logical conclusion; and the great soldier, who for five weeks, at the age of sixty-six, had shown such marvellous activity, tact, and judgment, was recognized as Generalissimo of all the Allied Armies on the Western Front, including Italy. How splendidly he justified, and is still justifying, this appointment is common knowledge.

The events of the year 1917 had left the Allies on the Western Front in a worse position than had been the case since 1914. The unstable situation of the French Government of M. Briand, who had held power for two years (a long time in France) and was bitterly opposed by the Socialists and Caillaux Radicals and some others, had brought about the retirement of Marshal Joffre, who, with General Roques (one of his Corps Commanders and an engineer also) as War Minister, exercised perhaps more military power, outside his own particular duties as Commander-in-Chief, than was constitutionally admissible under parliamentary government.

The retirement of Marshal Joffre, who had always worked with such perfect accord with Sir Douglas Haig, was regretted in England, among other reasons because it involved a change of plan for the campaign of 1917. The new French Commander-in-Chief, General Nivelle, decided to attack the Aisne positions, between Soissons and Rheims, as he hoped, decisively, with three armies. But by April 16th, 1917—the first day of the great attack—the general situation was totally different to what it was when the plan was made: the enemy had retreated to the Hindenburg line, Russia was deserting the cause, and America was coming in, effectively, however, only in a year's time.

Why, in these circumstances, General Nivelle did not postpone his offensive is rather difficult to understand. Its comparative failure—due to the new German defence tactics (positions organized in depth) and to the absence of surprise—greatly weakened the *morale* of the French troops, besides reducing their number materially.

On the British side, some relatively small successes had kept up the offensive spirit of the troops, but the last affair of 1917 (Cambrai) was costly.

<sup>1</sup> According to M. Painlevé, the Nivelle school in 1917 thought Foch out of date. Presumably also his two books ("*La Conduite de la Guerre*" and "*Les Principes de la Guerre*").

For these reasons the ability of the Allies to withstand the enemy's gigantic onslaught on the Western Front in the spring of 1918 would have been less than it actually was had it not been for two fortunate occurrences which had the happiest effect on the military situation in France; that is to say, the appointment by M. Painlevé, during his short lease of power, of the Generals Pétain and Foch as, respectively, Commander-in-Chief and Chief of the General Staff (of which act he has every right to claim credit), and, secondly, the advent in November, 1917, of the Government of M. Clemenceau.

Marshal Pétain set to work at once to re-establish the *morale* of the French Army, and succeeded, as none other could have done, absolutely, as in March and April, 1918, the event showed.

With regard to M. Clemenceau,<sup>1</sup> no words can adequately express the debt due to him by France and by her Allies for his energy, firmness, and unshakable faith in the ultimate victory. As in his former ministry, in the first decade of the present century, his return to power was marked by stability in Parliament and by order and confidence in the interior, as well as in the zone of the armies. His firm government, so precious for the cause of the *Entente*, could only be carried on at the risk of his life. Fortunately, he escaped, as previously, from Anarchistical attempts of assassination, this time with a bullet in his shoulder, which only added to his popularity with the soldiers at the front, English as well as French, and with the great majority of his countrymen.

Therefore, in the spring of 1918, there were many points in favour of the Allies; but unfortunately the pressure of public opinion in France and in the Chamber of Deputies, which had for long demanded an extension of the British front, caused the relief, in January, of the French Sixth Army, holding that part of the front which included St. Quentin to the north of the Oise, by the British Fifth Army.

This extension of front was not to the liking either of the British Government or of Sir Douglas Haig, who thought, rightly, that it dangerously weakened his front just at the very time that he had to prepare to resist the most formidable German attack of the whole war. It was the point of junction with the French Armies, and therefore invited attack. Nevertheless, it was the fog on March 21st, far more than the German tactics, that caused the fracture of General Gough's front with such dramatic rapidity.

Fortunately, General Pétain had not overlooked the possibility of a violent attack in this quarter.

#### THE GERMAN OFFENSIVE OF MARCH 21ST.

Space will not allow of any attempt at describing the various offensives of the campaign in detail. The main features are already well known. It is only when new facts, taken from M. Louis Madelin's

<sup>1</sup> M. Clemenceau's parliamentary nickname, "le Tigre," is due to the cast of his face, which reminds one somewhat of a tiger. He is a mild enough "tiger" now, and seems to be as popular with the Catholics of France as he once was with the anti-clericals.

remarkable articles in the *Revue des Deux Mondes* for August, September, and October, 1919, seem to be of special interest that some description of the tactical operations will be essayed. M. Madelin, as a personal friend of Marshal Foch, enjoyed exceptional facilities both for observation and for obtaining information of the first importance to an historian of the campaign. If he is inclined to be eulogistic of his friend the Marshal, who is not so now? Has not Lord French called him one of the great leaders in the history of war?

The armistice of Brest-Litovsk was signed on December 20th, 1917; the treaty on February 9th following; and as a consequence sixty-four German divisions were brought over to the Western Front, raising the enemy's total to 205 divisions against 171 of the Allies: 99 French, 58 British, 12 Belgian, and 2 Portuguese.

At 4.40 a.m. on March 21st, after a short but very violent bombardment, the enemy's attack was delivered on a front of fifty miles between the Scarpe and the Oise. Everything was in his favour. The right flank of the British Fifth Army had been regarded as protected by the marshes of the Oise. But the dry weather had rendered them practicable for infantry. The fog was so dense that nothing could be seen clearly till three o'clock in the afternoon. The British right was turned by six German divisions (according to M. Madelin) traversing the marshes, opposed by only one British division.

Owing to the fog, and perhaps in some degree to the surprise of an infantry attack after so short an artillery bombardment, the defence of the Fifth Army was of a disorganized and isolated character, and the attack of Von Hutier literally swept everything before it up to the line of the Somme. The third position was taken on the 22nd, and the Fifth Army was back on the above-mentioned river on the 23rd. Von Hutier had brought twenty-nine divisions into action against the available ten of the Fifth Army.<sup>1</sup>

On General Gough's left, the Third Army, under General Byng, had better fortune. Ludendorff complains in his "Memoirs" of General von der Marwitz, who commanded the German Second Army. At the end of the day (21st) only the first position between Demicourt and Fontaine-les-Croiselles was captured, although the enemy's superiority in numbers was much the same as against the Fifth Army. But in the following days the retreat of the Fifth Army uncovered the right of General Byng's army, and obliged it to retire also.

The number of German divisions engaged in the offensive of March 21st has been variously computed at from sixty to seventy-two. M. Madelin puts it at sixty-four. This number probably included

<sup>1</sup>Mr. W. S. Sparrow, in his article, "The Truth about the Fifth Army," which appeared in the "XIX. Century and After" for November, 1919, gives Von Hutier's army thirty-three divisions. Moreover, Lord Byng's army, he states, had nineteen divisions on a front of twenty-six miles, whereas the Fifth Army had only fourteen divisions and three cavalry divisions to defend a front of forty-one miles. He claims, also, that four of Von der Marwitz's divisions on General Gough's left and three of Von Boehm's on his right, in addition to Von Hutier's thirty-three, assailed the Fifth Army.

three divisions of von Boehm's army on the extreme left of the enemy's attack. As soon as it was known that the British Fifth Army's front was broken, French reserves were moved into the sector.

Marshal Pétain had placed the Vth Corps (General Pellé), of three divisions, in the neighbourhood of Compiègne, and two Staffs—that of the Third Army (Humbert) and Group of Armies (Fayolle)—were also located west of the Oise, ready to assume direction of a battle in the Oise valley, on the right bank. Moreover, the French Commander-in-Chief, in order to maintain connection between the Allied armies in case of an attack on the British front, had ordered that the 125th Division, on the left of the Sixth Army, should be ready to cross the Oise and reinforce the British 5th Division on the right of General Gough's army in case of need; but in the actual event, the retreat of the Fifth Army was too rapid for connection to be maintained. However, General Humbert, on receiving a laconic telegram, "*Réalises hypothèse A*," fixed his headquarters at Montdidier and assumed command of all the French troops in the vicinity. General Pellé pushed forward to Noyon with his three divisions, and held on there till the 25th. Covered by these gallant troops, the French Third Army assembled on the line Oise to Mesnil-St. George. The French First Army (Debeney), which had been trained up from the neighbourhood of Toul, carried on the line to Moreuil, whence to the Somme the XVIIIth and XIXth Corps of the British Fifth Army (having retreated north-west) continued the front through Villers-Bretonneux to the Somme.

By March 31st the enemy was definitely checked and Amiens saved; but the British right had been pushed back thirty miles, necessitating a corresponding retrograde movement on the part of the French on one side and of General Byng's army on the other. General Gough's losses in men and *matériel* had also been heavy.

The enemy tried again with fresh troops to develop his success on April 4th and 5th, in the direction of Amiens, but his efforts were brought to a complete standstill at the foot of the heights on the left bank of the Avre.

Meanwhile, General Foch had been appointed *co-ordonateur supérieur* on the Western Front at the termination of an Allied council held at Doullens (twenty miles S.W. of Arras) on March 26th, at which were present President Poincaré, M. Clemenceau, Lord Milner, and the Generals Foch, Pétain, and Haig.

General Foch's first *Directive*, dated March 30th, enjoined tenacity and union. It declared "the task of the Allied Armies in the present battle" to be first "to arrest the enemy's advance" and then "to maintain strict connection between British and French forces, notably by the possession of Amiens," and by preserving "the free use of the Abbeville—Amiens—Paris railway."

On April 3rd there was an Allied conference—French, British, American, Belgian—at General Foch's headquarters, the town hall of Beauvais, when the general principle of an offensive in a week's time by the British Fifth Army, in co-operation with the French First Army, was settled.

Another meeting of the *Co-ordinateur* and his lieutenants was held at Breteuil on the 8th, at which the details of the proposed offensive were settled. But the British Field-Marshal had hardly reached his headquarters at Saint-Omer, when he heard that his Flanders front had been attacked and driven in, which event caused the revision and finally the abandonment of General Foch's plans.

So rapid had been the enemy's advance that on the 11th he had reached Merville, and Hazebrouck was threatened. His first attack on the 9th had been directed against the portion of front held by the Portuguese (whom it had been intended to relieve on the 10th). One division was completely surprised, and the enemy was able to take the second position of our First Army in a few minutes. Ten divisions of this army had only just returned from the Somme, very tired. The Ypres salient was reduced in depth. General Foch sent the French IInd Cavalry Corps and the 28th and 133rd Infantry Divisions to reinforce the Flanders sector. There was a lull from the 19th to the 24th, but the enemy took Mount Kemmel on the 26th. The Bavarian Alpine Corps and other *corps d'élite* were engaged in this affair against two French divisions and one British.

This battle of Flanders ended on the 29th. The Allies held firm on the line Wormezele—Sherpenberg, and although the Germans had taken Mount Kemmel they were unable to make further progress. Ypres, therefore, remained safe, and Cassel covered.

The threat to the Channel ports, however, demanded the permanent retention of a large force in Flanders, which was the chief result obtained by the enemy in this offensive.

It is an interesting question whether the German offensive of April 9th in Flanders was begun as a diversion to the main attack on Amiens, or whether the Channel ports were not, after all, as much Ludendorff's objectives as Amiens and Abbeville. The capture of the latter would have meant, it is true, the complete separation of the British Armies from those of the French; but it is not by any means certain that this strategical conception was the reason for the attack coming where it did on March 21st. It was affirmed at the time in German newspapers that the reason was purely tactical, and Ludendorff in his "Memoirs" says practically the same thing. Whether he is to be believed, however, is another matter. General Buat, who in 1918 was Chief of the Staff to General Pétain, in the *Revue des Deux Mondes* for January 1st, 1920, remarks on this subject:—

"Ludendorff is not always sincere, and when he is, moreover, as far as he goes, he does not always give the whole truth. What developments had he anticipated in each of his great offensives of March 21st, May 27th, and July 15th, 1918? What did he expect from them? To answer 'nothing,' protesting that strategy was of no importance and that tactics only counted, is childishness."

On May 2nd General Foch became Generalissimo of the Allied Armies on the Western Front, *including Italy*.

On the 6th General Pétain reported that, on account of having taken back the front occupied by the British Fifth Army on March 21st

and after sending ten divisions to Flanders, the French were at the limit of effort on the left bank of the Oise.

In consequence of this report, the Generalissimo, on the 7th, requested General Pershing to send all sufficiently instructed American divisions at once to the front, and wrote to General Diaz to prepare a new offensive. On the 12th he directed General Pétain to do likewise with the object of disengaging Amiens. He also desired Sir D. Haig to, if possible, attack the enemy in flank in order to disengage the mines of Bruay. Having General Weygand (Chief of Staff, XXth Corps, when General Foch commanded it in August, 1914, and subsequently chief of the French delegation on the Technical Council of Versailles) as his Chief of the Staff at Beauvais, the Generalissimo was himself ubiquitous on the front, continually visiting the headquarters of army group commanders, and those of Sir Douglas Haig and the King of the Belgians.

In his *Directive No. 3*, of May 20th, he gave expression to the burning desire that possessed him of assuming the offensive in order to regain the initiative: "Only the offensive," he declared, "will permit the Allies to terminate the battle victoriously and regain, by their moral ascendancy, the initiative."

On the side of the enemy, Ludendorff, while, without doubt, regarding the Channel ports as one of his principal objectives, had at last realized that as long as the French were able to send divisions into Flanders, a continuation of the offensive there was unlikely to give any decisive results. He therefore decided to make his next effort against the French in Champagne, which would at the same time give the German Crown Prince an opportunity to gain military renown and avenge his failure at Verdun.

#### THE GERMAN OFFENSIVE OF MAY 27TH.

The assault of the *Chemin des Dames* positions was confided to the army of General von Boehm, while that of General von Below attacked the British IXth Corps (three divisions) in position on the right of the French Sixth Army (General Duchène) from the plateau of Craonne to Rheims.

The German preparations were kept so secret, the woods in summer foliage assisting, that there was nothing to indicate probable attack in this quarter. Units had, therefore, been sent away to Picardy and Flanders, and the sector maintained at one-third of the strength of a battle front. The French Sixth Army comprised only eight divisions, and from the Soissons—Laon road to Rheims, divisions in the first line had five miles of front to defend, while in the second line there was only one division to nine miles. This paucity of effectives would appear to have been the real reason for the *débâcle* of May 27th. Doubtless the very short artillery preparation—less than three hours—contributed in some measure to the enemy's easy victory, because its extraordinary violence would naturally tend to keep the defenders in their dug-outs, at least until it was light, and the German infantry began the assault at 3.40 a.m.

Four thousand guns opened at 1 a.m., and at 10 a.m. some enemy units had already reached the Aisne. By 12 noon this river had been attained at all points.

This astonishing result (it is said to have astonished the German High Direction as much as anyone) was due to surprise, but not in the sense that no attack was expected on the twenty-seventh morning. On the afternoon of the 26th two German prisoners informed General Duchène that he might expect attack at 3 a.m. the next day. This was too late to obtain reinforcements, but not too late, presumably, to warn the eight French and three British divisions in this sector.

The enemy brought thirty-four divisions into action against eleven French and British. As many as six, according to M. Madelin, attacked the French 22nd Division at Vaucière and Craonne. The British IXth Corps had to fall back on account of the destruction of this French Division (the 22nd) on its left. At 7.30 p.m. the Germans reached the Vesle at Bazoches and Bagneux. Next morning, the 28th, the 10th Reserve, and the 5th Guard Divisions crossed and marched, respectively, on Fère and Ville-en-Tardenois.

Intended as a diversion, or in any case with the limited objective of occupying the heights between the Aisne and the Vesle, the offensive of May 27th had, in forty-eight hours, assumed such proportions, with very slight loss to the attackers, that it appeared to promise an opening towards Paris by the valley of the Marne. At a conference held at Berry-au-Bac between the Emperor, the Crown Prince, Hindenburg, and Ludendorff, it was decided to attack Rheims and Villers-Cotterets with the view of widening the salient, and *at the same time* to exploit success in the centre beyond the Marne.

This latter decision assured the German defeat. From a strategical standpoint the salient should on no account have been made deeper until the Allied *points d'appui* on its flanks—Rheims and Villers-Cotterets—had been secured. It was obvious at once that by stretching the salient beyond the Marne the enemy was offering an opportunity to the Allied Generalissimo to attack a considerable mass of his troops formed to a flank, parallel to their communications, while covering his own with Paris and protected on his left flank by the Aisne from Soissons to Compiègne. The only doubt was whether the Generalissimo had sufficient reserves of men and *matériel* to take advantage of the opportunity offered. The German High Command evidently thought he had not, and indeed, even in the *Entente* countries, few dared to hope that American help in trained soldiers would be in time.

On May 31st Ludendorff would seem to have recognized his mistake to a certain degree. There was a fresh conference and the centre was ordered to refrain from any further advance, while a fresh offensive was planned in the direction of Villers-Cotterets, combined with an attack by Von Hutier's army, from Noyon and Montdidier, with Compiègne as its objective. The object of this latter manoeuvre was not, as some thought at the time, to march on Paris by the Oise valley, but simply to aid in enlarging the salient westwards. The capture of Compiègne would have seriously menaced the French position on the right bank of the Aisne, west of Soissons,

and might have necessitated retirement, which would have opened out the salient on that side.

General Humbert (French Third Army), who was opposed to Von Hutier, received information from two deserters who came from different parts of the German Commander's front, which enabled him to announce on June 6th in orders the imminence of the enemy's attack. There was, therefore, no surprise on the 9th. General Fayolle virtually commanded the French, the Third being one of the armies in his group. The other two were the First (Debeney), in line on Humbert's left, and the Tenth (Maistre), which had all along been in reserve. The Generalissimo had called it over to Champagne after May 27th, but at least some part of it, under General Mangin, was present at this battle.

The enemy's artillery preparation began at midnight on June 9th, and the infantry advance began at 4.20 a.m. The French Third Army held on well on the flanks, but its centre was pierced for a depth of five miles, the enemy occupying Ressons-sur-Matz in the evening.

On the 10th a counter-attack arrested the hostile advance except on the right, where the enemy reached the vicinity of Ribecourt, causing the French Sixth Army on the left bank of the Oise to fall back also.

Towards the close of this day General Fayolle massed four divisions, under General Mangin, on the plateau of Courcelles (French extreme left), and on the morning of the 11th, at four a.m., these reserves attacked the enemy's right and put a different complexion on the combat. The enemy lost 1,000 prisoners and sixteen guns, and Von Hutier's reserves were exhausted.

On the 12th and 13th the French pushed the German Eighteenth Army back to the Matz. Von Hutier had attained none of his objectives, and the enemy was almost equally unsuccessful in endeavouring to push out the right flank of the salient towards Villers-Cotterets. The attack on this side died out at the eastern edge of the forest.

It was after this battle that General Maistre was promoted to Army Group Commander and General Mangin to the command of the Tenth Army.

Towards the end of June the Field-Marshal commanding the British forces reported that manifestly Prince Rupprecht of Bavaria (commanding German forces north of the Oise) was preparing a big offensive against the British front. On the other hand, General Pétain reported signs of preparation for an offensive in Champagne. Undoubtedly preparations were in hand in Artois and Flanders, and Ludendorff was actually at Prince Rupprecht's headquarters when General Fayolle's great counter-attack was launched in Champagne on July 18th. It would appear that Ludendorff had reverted to his original plan (against the Channel ports) after Von Hutier's failure in June, and that an offensive in Flanders would have followed that of July 15th had the latter been successful in securing the occupation of Chalons and Epernay and the isolation of Rheims, which were in all probability the principal objectives of the undertaking. As it not only failed, but gave Marshal Foch his opportunity to take his

adversaries at a disadvantage, all idea of fresh offensives had to be abandoned.

In his *Directive* of July 1st, the Generalissimo remarked: "The enemy is held 30 kilometres from Dunkirk, 60 kilometres from Calais, 70 from Boulogne, 60 from Abbeville, 60 from Paris, and 25 from Chalons. A further progression of 40 kilometres, on the part of the enemy, towards Abbeville would cut communications with the north of France and separate the British Armies from those of the French. An advance of much less towards Paris, without bringing about a military decision, would influence public opinion to such an extent that Paris would have to be evacuated, for fear of bombardment, and the indispensable action of the Government would be impeded with regard to the conduct of the war.

"It is, therefore, Paris and Abbeville that require covering before all else. Reserves will be directed to the battle wherever it is engaged. French reserves to the British front, should it be heavily attacked, and British reserves to the aid of the French, should the enemy concentrate his masses beyond question in the direction of Paris."

#### THE GERMAN OFFENSIVE OF JULY 15TH.

German preparations for attack opposite General Gouraud's army were discovered by aerial photographs about July 2nd, and therefore, this time again, there was no surprise. General Pétain reported these indications to Marshal Foch on the 3rd. Now, some time previous to this report, the Generalissimo, in agreement with Generals Pétain and Fayolle—Pétain, as French Commander-in-Chief, being, of course, the latter's immediate superior—had decided on an offensive against the right, or western, flank of the great salient. General Mangin, commanding the Tenth Army, began preparations on July 1st.

Marshal Foch now intended that his proposed offensive should be launched as a counter-attack after the enemy had failed—as he knew he would—against the second position of General Gouraud's army. The trap that Gouraud laid for Von Below's army was prepared under instructions from the Generalissimo, through Pétain. The first position of the French Fourth Army (Rheims to the Argonne), which was on high ground and appeared to be very strong, was to be abandoned when the enemy advanced, except by certain "nests" of machine-guns; the shelters and dug-outs filled with yperite gas, and parts of the terrain between the first and second positions, favourable for the movement of Tanks, sown with bombs.

The distance between the first and second positions appears to have been at least two or three miles, and all this ground, besides being sown with bombs, was under the massed fire of artillery which had been reinforced.

In the eyes of Marshal Foch, the approaching battle began to assume decisive proportions. During the first fortnight of July the troops under General Fayolle (for the counter-attack) were reinforced by General Degoutte's (Sixth) Army, and the whole sector by the Italian II<sup>nd</sup> Corps, eight American divisions, and the British XXII<sup>nd</sup> Corps from the Somme (of four divisions).

On July 14th, at eight p.m., twenty-seven prisoners were captured east of Rheims by a *coup-de-main* planned for that purpose. From these prisoners General Gouraud ascertained that von Below's attack was ordered for the following morning at daybreak. For this reason the French artillery are said to have opened fire before the enemy's artillery preparation began.

However that may be, the trap so carefully laid succeeded almost beyond expectation. The enemy's assaulting columns were held up and his reserves slaughtered all along the front of the Fourth Army's second position, from the outskirts of Rheims to Massiges (eight miles west of Verdun), while those of his Tanks that escaped bombardment were blown up by the bombs. Practically everywhere, against the French Fourth Army, the enemy's repulse was decisive and crushing.

Meanwhile, to the south of Rheims, Von Boehm had attacked, with rather more success, the French Fifth Army (Berthelot), holding the left flank of the great salient, on whose front face also the enemy's pressure was not without some result. The Marne was crossed and positions occupied on the left bank. But nothing decisive happened, either on this or on the two following days, and on the evening of the 17th, when Epernay seemed to be threatened, the situation was really exceedingly favourable for the Allies. For the Generalissimo's counter-attack under General Fayolle was to be launched the next morning, the enemy's efforts against Berthelot had only forced his left back a few miles, Epernay was but threatened, while the further the Boche went south across the Marne, the worse it would be for him when the armies of Mangin and Degoutte advanced on the flank of his communications with the Aisne.

The supreme moment had arrived, when an attack in flank was about to change the whole fortune of the Titanic conflict.

The Forest of Villers-Cotterets was very useful to Generals Mangin and Degoutte. They had between them 488 Tanks,<sup>1</sup> which, among other things, the forest concealed.

General Mangin, in the course of his preparations, had made local attacks with limited objectives and had found the enemy weak. He was thus able, early in July, to considerably straighten the enemy's front from Soissons to Château-Thierry up to the line Moulin-sous-Touvent—Longpont, the base of departure of his offensive. On the 15th he received, as reinforcements, an American corps, the 34th British Division and two French cavalry corps. His army (the Tenth), covered on its left by the Aisne, extended its right to the Ourcq, whence the Sixth Army (Degoutte) carried on the line to the Marne.

On the side of the enemy, General Mangin's preparatory attacks had caused him to reinforce the front opposite the French Tenth Army, General von Eben, from Russia, taking command of twelve divisions—the Ninth Army; but owing to the American resistance about Château-Thierry, three of these divisions had been sent south of the Ourcq, and on the morning of the 18th only nine German divisions opposed the French Tenth Army.

<sup>1</sup>Two-thirds of these were with the Tenth Army (Mangin).

Space will not admit of more than a brief record of the main results of this glorious offensive, in which all the Allied troops—French, British, Italians, and Americans, took part.

On the 18th, both armies, having broken the enemy's front, advanced about six miles, taking 12,000 prisoners and 800 guns.

On the 19th, General Berthelot's Army (Fifth) assumed the offensive against the left or eastern flank of the great salient, while the French IXth Army (de Mitry), which had been brought up from Flanders to reinforce the defence of the Paris—Chalons railway, attacked the German detachments on the left, or south, bank of the Marne.

The 51st and 62nd British Divisions were with Berthelot.

The German Staff recognized on the 20th that retreat to the Vesle was imperative; but in order to save some part of the enormous stores, collected at Fère-en-Tardenois, a strong defence was organized on the flanks, east and west respectively, on the hills overlooking the River Ardre, and in the valley of the Crise, south of Soissons.

General Degoutte's army reached the Forest of Fère on the 24th. A big battle was fought on the Ardre, the 24th, 25th, and 26th. General Berthelot—with whom, as before stated, were Italians and British—was checked. But on the 28th, the French Sixth Army entered Fère-en-Tardenois, and on the 31st the French Tenth, Sixth, and Fifth Armies were on the line Soissons—Saint Euphrase (south-west of Rheims).

The offensive was resumed on August 2nd, and by the 5th of that month the enemy had been driven north of the Vesle, and Fismes was in possession of the Sixth Army. The Ninth Army (de Mitry) was in reserve. This was the end of the Second Battle of the Marne. The fruits of the victory were 30,000 prisoners, 900 guns, 6,000 machine-guns, immense quantities of shells and other war material, and lastly, but by far the most important, the initiative definitely regained.

Marshal Foch had no intention of sacrificing men by attacking frontally the strong positions of the Vesle. He decided to remain on the defensive in that quarter with the Sixth and Fifth Armies until General Mangin with the Tenth Army, in conjunction with a forward movement of the French Third (Humbert) and First (Debeney) Armies (connecting with the British Fourth, Third, and First Armies in the order named) had turned the Vesle and Aisne positions, obliging the enemy to retreat in order to save his communications.

The Marshal's immediate objectives were the disengaging—i.e., placing out of the scope of the enemy's bombardment—of Amiens and the railway, from the Channel ports, via Abbeville and Amiens, to Paris, the recapture of Mount Kemmel and the disengaging of the Paris—Avricourt railway in the region of Commerrey by the reduction of the St. Mihiel salient (by the Americans).

#### THE BATTLE OF AMIENS—MONIDIDIER, AUGUST 8TH—14TH.

It will be noticed that Marshal Foch took great advantage of rivers running parallel to the direction of his attacks. In the offensive of

July 18th the flanks were covered by the Aisne and the Marne. In that of August 8th by the Oise and the Somme. A similar provision will be noticed in his subsequent operations.

Marshal Foch's orders for the offensive of August 8th were as follows:—"The British Fourth Army and the French First Army will advance on the 8th under the command of Field-Marshal Sir D. Haig, the former north and the latter south of the Amiens—Roye road. The offensive, covered by the Somme, will be pushed as far as possible towards Roye.

"The French Third Army will attack the left flank of the Montdidier salient on the 10th inst.

"The French Tenth Army in the Oise Valley (on left bank) will continue to advance eastwards."

In order to deceive the enemy, Sir Douglas Haig made ostentatious preparations for the attack of Mount Kemmel;<sup>1</sup> and when on the morning of the 8th our Fourth Army attacked on a front of eleven miles, north of the Amiens—Roye road, the Germans were as completely surprised as were the British on March 21st. As on that fateful morning, the attacker was favoured by fog. The tactics employed were the same as on July 18th, the artillery preparation beginning only as the Tanks advanced with moving barrage or curtain fire, and, as before remarked, the organization of infantry duties followed German practice, as expounded in Marshal Foch's *directive* of June 16th. It was a glorious day for General Rawlinson and for his army: 13,000 prisoners, 400 guns captured, and an advance of six miles into the enemy's lines.

On the south of the Roye road, on a front of five miles, the French First Army had similar success, advancing to the north and south of Montdidier, encircling the town, which the enemy evacuated before dawn on the 9th, leaving several thousand prisoners in the hands of the French. The Generalissimo ordered General Debeney to push his XXXIst Corps on Roye *tambours battants*, and called upon the British Third Army (Byng) to be ready to attack the enemy north of the Somme, General Mangin (Tenth Army) being ordered to seize the high ground about Chauny, Noyon, and Guiscard.

This preliminary offensive, for the purpose of disengaging Amiens, gradually died out in face of the heavy reserves brought into the fight and increasing opposition on the part of the enemy. On the 4th, all attempts to push a further advance ceased along the fronts of the British Fourth and French First and Third Armies.<sup>2</sup>

The battle, however, was before long to assume vastly greater proportions. Marshal Foch's intention was to, at once, attack on the flanks of his former offensive, preparatory to a further advance of the centre. General Mangin, in accordance with his instructions, began on the 20th, taking 11,000 prisoners, and, following up this success, the Tenth Army reached the Ailette on the 23rd. On the other flank, the left, the British First and Third Armies, *covered on their left by*

<sup>1</sup> The enemy evacuated Mount Kemmel soon afterwards.

<sup>2</sup> On this date the Allies, in less than a month, had taken 128,000 prisoners, 2,069 guns, and 13,783 machine-guns.

the *Sensée*, were to make the principal attack, after a partial offensive in the nature of a feint by the Fourth Army between the Ancre and the Somme, for the purpose of obtaining possession of the Arras—Albert railway. Marshal Foch desired that the attack of the Third Army should begin as soon as possible, "with violence," and that this attack should be the signal for the divisions of the British First Army, on the left, joining in together with (on the right) the whole of the Fourth Army.

#### THE BATTLE OF BAPAUME, AUGUST 22ND—31ST.

The preliminary operation (in the nature of a feint) was carried out successfully on the 21st, and on the 22nd the principal attack began on a front of thirty miles (including that of the Fourth Army).

The battle raged for four days, till the 26th, when the Third and Fourth Armies turned the enemy's retreat into more or less of a rout, and thousands of prisoners were captured. Bapaume was taken on the 29th, and on the 30th the Fourth and Third Armies were on a line Cléry-sur-Somme—Combles—Frémicourt—Bullecourt—Heudicourt (close to the Hindenburg line). Peronne was taken by the Australians on September 1st, after the capture, on the night of August 30th—31st, of Mount St. Quentin with 1,500 prisoners. The Canadians, not to be outdone, penetrated the Hindenburg line at Quéant on September 2nd.

On General Rawlinson's right, General Fayolle's group of armies (of which the Third was now placed in reserve) had occupied Noyon; and on the left bank of the Oise General Mangin's army had crossed the Ailette. Continuing to menace the communications of the Germans south of the Aisne, the operations of the Tenth Army at last, on September 6th, forced the enemy to retreat precipitately from the Vesle, followed by General Berthelot's Fifth Army (of the group Maistre).

The enemy had now been forced back generally to the Hindenburg line (see sketch), whence he had started in such overpowering numbers to attack the British on March 21st, and the French on May 27th. Doubtless he hoped and believed that before such a formidable front, organized in depth, the Allies, after so many months of desperate fighting, would bring the campaign of 1918 to a close, and wait till the following spring before making their supreme effort.

But more American units had come into line than the Great General Staff gave credit for, and even on September 3rd, the day after Quéant and before General Mangin's operations had caused the enemy's retreat from the Vesle, Marshal Foch had made his plan and was about to communicate it to his lieutenants, who, from left to right, were *King Albert* (of the Belgians), with General Degoutte as his Chief of Staff, *Sir Douglas Haig*, *General Pétain* (under whom were two army group commanders, Fayolle and Maistre) and, on the extreme right, ultimately (on October 16th) *General Pershing*.<sup>1</sup> "Without delay" all the Allied forces were to engage in the decisive

<sup>1</sup> Up to October 16th the American First, and for a few days Second, Army appear to have been included in General Maistre's army group.

battle. The three British Armies (First, Third, and Fourth), under the Field-Marshal C.-in-C., supported on their right by the French First Army (left wing), were to prepare to attack in the general direction Cambrai—St. Quentin.

The centre of the French Armies (Tenth and left wing of Fifth) would continue to drive the enemy beyond the Aisne and Ailette.

The Americans (First Army) and army group Maistre (Fourth and Fifth Armies), after executing an operation in the Woeuvre (reduction of the St. Mihiel salient), were to advance, *covered on their right by the Meuse*, in the general direction of Mezières.

All these three distinct attacks were to begin as soon as possible, and they worked out, with respect to their commencement, on three consecutive days, from the 26th to the 28th.

The Germans do not seem to have been aware of the preparations opposite their extreme right. The Belgians—excepting certain amphibious *coups-de-main*, at which they were skilled—had always remained on the passive defensive, protected by inundations. Consequently the first day of the King's offensive proved a complete success, the hitherto impregnable Forest of Houthulst was taken together with 11,000 prisoners and 350 guns; but on October 1st very bad weather set in, rendering progress extremely difficult, and chiefly on this account a halt had to be called on the line Dixmude (occupied)—Handzuin—Roulers—Menin, the two latter towns being still in the possession of the enemy. But, as we shall presently see, the halt was of short duration.

#### THE BATTLE OF CAMBRAI—ST. QUENTIN.

Meanwhile, the British First, Third, and Fourth Armies and French First Army, after a series of preliminary engagements, from September 12th to 22nd, for the purpose of arriving at assaulting distance of the Hindenburg line, had begun on September 27th—28th what was really the decisive battle of the (Allied) offensive phase of the campaign.

Owing to the strength of the positions to be attacked, especially the canal system covering Cambrai, the (since July 18th) discarded tactics of artillery preparation were once more resorted to. During the night of the 26th—27th a general bombardment of the enemy's position went on along the whole front, which, as regards the British Fourth Army, was continued during the 27th and 28th.

The First and Third Armies, however, attacked on the morning of the 27th, turning the *Canal du Nord* and taking 10,000 prisoners and 200 guns. Marcoing and the St. Quentin Canal were captured on the 28th. On the 29th the Fourth Army, its left being now covered by the advance of that of General Byng, attacked on a front of twelve miles, the American XIth Corps being in front line with our IIIrd and IXth Corps. On General Rawlinson's right the French First Army attacked St. Quentin. The Fourth Army crossed the St. Quentin Canal, British and Americans, in emulation, fighting irresistibly. Our 46th Division alone took 4,000 prisoners and seventy guns.

General Debeney took St. Quentin on October 2nd, after nearly surrounding it, his troops having passed north and south of the town during the previous day's fighting. Le Cateau fell on the 3rd, and Cambrai was all but encircled. The Hindenburg line had been penetrated at several points. After a short lull this battle was resumed with decisive effect on October 8th.

On the Allied extreme right—after brilliantly reducing the St. Mihiel salient and driving the enemy over the Meuse with loss of 16,000 prisoners and 440 guns—the French Fourth Army and Americans had at first not been able to make as much progress northwards as the Generalissimo had hoped would have been the case. After a good success on September 26th and 27th, when several thousands of prisoners were taken, the Americans were brought to a standstill before the well-fortified position of *Notre Dame des Champs* which commanded all the valley of the Py. The strong Fourth Army (Gouraud), consisting of the 2nd, 9th, 11th, 14th, 21st, and 38th Corps d'armée and a corps of cavalry, while continuing to progress in the centre, met with a particularly strenuous resistance on its left, north of Auberive, which it was unable to overcome. Strategically, this offensive, so far, had not fulfilled the Marshal's intentions. He left Trois Fontaines on September 30th intent upon launching another American Army in extension of the First Army's front on the right bank of the Meuse.

Offensive operations were resumed with better success on October 3rd, and, as a result of continued pressure by the army group Maistre (French Fourth and Fifth Armies), to which until the 16th the American First and Second Armies were attached, the enemy was driven successively across the Suippe and the Aisne.

This forward movement of the right assisted the manœuvres of the French Tenth Army in the centre. Craonne was evacuated by the enemy on the 11th and St. Gobain on the 12th. General Mangin entered Laon on the 13th.

Opposite Cambrai and Le Cateau the British Third and Fourth Armies had resumed their onward movement on October 8th, advancing three miles through the Hindenburg line and taking thousands of prisoners and much *matériel*. On the 9th the armies of Von Below and Von Hutier were in full retreat, and the British cavalry now led the advance.

The enemy, however, had still a strong fortified position to fall back on: the *Hermann-Stellung*, which covered the *trouées* of the Scarpe and Scheldt, and extended eastwards to Hirson.

In the north, Lille had yet to be turned—there was no question of attacking it frontally—and on the centre and right of the Allied front the *Hagen-Stellung*, from the region of Vervins to Sedan, had yet to be forced.

On October 13th the general situation in France may be summed up as follows:—On the right the Americans were masters of the Argonne, the army group Maistre was on the line Vouziers—Chemin des Dames (General Guillaumat commanding the Fifth Army *vice* Berthelot, on his way once more to Rumania), the army group Fayolle

on the line Laon—St. Quentin (north-east of it), Sir Douglas Haig's three armies Le Cateau—Arleux—south of Lille, the reconstituted British Fifth Army, under General Birdwood, in front of Lille, and King Albert's group of armies about to resume the offensive in the general direction of Thourout and Courtrai, from the base of departure, already conquered, of Menin—Roulers—Dixmude.

#### KING ALBERT'S GREAT VICTORY.

King Albert's group of armies attacked again on October 14th. Their first push, begun on September 28th, it will be remembered, was brought to a stop chiefly on account of wet weather, which, in Flanders especially, makes movement difficult. But on this occasion His Belgian Majesty was particularly favoured by fortune, in that three enemy divisions had been withdrawn from opposite his front in order to support von Below in his retirement after the Cambrai—Le Cateau battle of October 8th and 9th.

It was reported at the time that they had not returned when Belgians, French, British, and two divisions of Americans fell on the right of the German line on the morning of the 14th. The result would make this highly probable. Never since May 27th had there been seen such an uninterrupted advance, and the strategical effect was, of course, much greater. Lille was entered by the British 59th Division, of General Birdwood's army, on the 17th and Ostend fell to the Belgians the same day. Bruges and Zeebrugge were reached by the cavalry on the 19th and the Dutch frontier on the 20th, German troops in this neighbourhood crossing it in large numbers and surrendering to the Dutch authorities. King Albert's group of armies now faced east, Belgians, French, and British, in the order named, advancing towards the line of the Scheldt from Ghent to Valenciennes, in the vicinity of which place General Plumer's (Second) Army connected, on its right, with the First Army, commanded by General Horne.

But neither Marshal Foch, nor indeed anyone else, could tell in the middle of October that revolution in Germany was so close, and that the High Command would throw up the sponge on November 11th rather than run the chance of a worse disaster. The *coup de grâce* that the Generalissimo was preparing was on the other flank—the strategical flank—and aimed, therefore, at the enemy's communications. King Albert's brilliant offensive had cleared the Belgian ports of the enemy and turned his right flank. Immense results, indeed, but from a purely military point of view, not actually decisive. A similar movement against the enemy's right, if successful, anyone can see, must have produced disaster fraught with tremendous consequences.

#### MARSHAL FOCH'S PLAN WHICH THE ARMISTICE ANTICIPATED.

The imminent loss by the enemy of the railway line Valenciennes—Quesnoy—Hirson—Mezières was about to render the transport of troops from right to left of his front extremely slow. The French Staff reckoned that out of a total of 187 divisions, the Germans had

150 west of the Ardennes, and without the aforesaid railway they would not be able to move more than one division a day from west to east into Lorraine. Consequently, the time was coming when an offensive in Lorraine, from the front Nancy—Avricourt, might prove useful.

Marshal Foch was of the same opinion, and had all along, without doubt, foreseen the possibility of such action. His *Directive* of October 19th, summarises the situation at this date. The Flanders army group was ordered to march on Brussels, the right on Hal via Pecq-sur-Scheldt and the Dender at Lessines. The British, south of the line of direction Pecq—Lessines—Hal, would advance with their right on Froid Chapelle (just north-east of the Forest of Chimay) and Philippeville. The French south of the British, the French First Army co-operating with them, the French Fifth Army marching on Chaumont—Porein (to attack left flank of the Hunding-Stellung), the Fourth on Buzancy; the American First Army on La Chêne in general direction Mezières—Sedan.

At the same time he wrote to General Pétain, under date October 20th: "The operations now in course of execution aim at driving the enemy to the Meuse. To accelerate overcoming his resistance at this river, attacks should be at once prepared, one from the Moselle in the direction Longwy—Luxembourg, and another in the general direction of the Saar." This order affected General de Castelnau, commanding the army group on the Eastern frontier. General Pétain decided to give him the Tenth Army (Mangin) for one of the proposed attacks, the other to be executed by the Eighth Army (Gérard). To take the place of the Tenth Army in the centre of the front of battle, the Third Army (Humbert) was brought up from the rear, where it had been for some weeks in reserve. This relief was carried out on the 27th in front of the Hunding-Stellung, in which fortified position, bristling with machine-guns, the enemy continued to resist obstinately up to the end of the month of October.

If we observe on the map the directions prescribed by the Generalissimo for the proposed attacks in Lorraine by two armies towards Longwy—Luxembourg and the Saar, we see at once what a menace to the German communications would have been the advance of this powerful force east of the Meuse, assuming, as was extremely probable, that it would succeed in overcoming the enemy's resistance. For seven months the fighting had all been to the west of the Ardennes. The enemy's reserves and mass of manœuvre, what there was of it, were in that quarter, and only thirty-seven divisions guarded the front from Longwy to Belfort. The difficulty of sending reinforcements to Lorraine from the west, owing to the loss by the enemy of the railway from Valenciennes to Hirson, has already been mentioned. This railway was occupied by the British Third Army on October 24th.

The Rhine is a broad river. For 150 or more divisions<sup>1</sup> to cross it in retreat between Coblenz and Cologne, hard pressed by victorious

<sup>1</sup> General Buat, the French Chief of Staff, says 160 divisions. He also says "hundreds of thousands of men and thousands and thousands of guns would have been our trophies."—*Revue des Deux Mondes*, January 1st, 1920.

armies, superior in numbers, in *matériel*, and in moral qualities, would have been an operation involving in any case heavy losses in prisoners, guns, etc.; but if, besides direct pursuit, they had had two hostile armies attacking their flank and rear, this would have meant a *débâcle*.

It was not to be.

For weeks the enemy had been haggling about an armistice, hoping to get some sort of terms through the President of the United States. Having discovered the preparations in Lorraine for the proposed attacks, probably by aerial photographs, he was ready to surrender almost unconditionally.<sup>1</sup>

On November 10th, 1918, the last day of actual hostilities, the Allies had reached the Meuse with their centre from Charleville to Rocroi.

On the right the Americans and French Fourth Army touched the river, crossing it at places, from above Sedan to Mezières (just south of Charleville).

On the left King Albert had occupied Ghent, the French Sixth Army had crossed the Scheldt in part, south of Ghent, and our Second Army also. Their leading units had reached the Oudenarde—Valenciennes road.

The British (Fourth Army) occupied Mons on the 10th, and thus had the satisfaction, on the last day of the war, of wresting from the enemy the Belgian town that was their starting point, in the sense that it was where they first met the enemy, in August, 1914.

The "Old Contemptibles" were avenged.

The successive offensives of the Allied Armies that followed the recovery of the initiative on July 18th were all partial, with more or less limited objectives:—August 8th, *Battle of Amiens—Montdidier*; August 22nd, *Battle of Bapaume*; September 12th—14th, *Battle of St. Mihiel* and General Mangin's operations on the Ailette<sup>2</sup>—until September 26th—28th, when battle was engaged practically simultaneously along the whole front, from Nieuport to Grandpré (north of the Argonne). From that time to November 11th, eleven, thirteen, and finally fourteen armies, profiting by the success of the preliminary offensives, attacked and pursued the exhausted Germans almost incessantly. Marshal Foch's guiding rule was to give the enemy no rest, no time to reorganize. The strategic pursuit, in fact, on an immense scale.

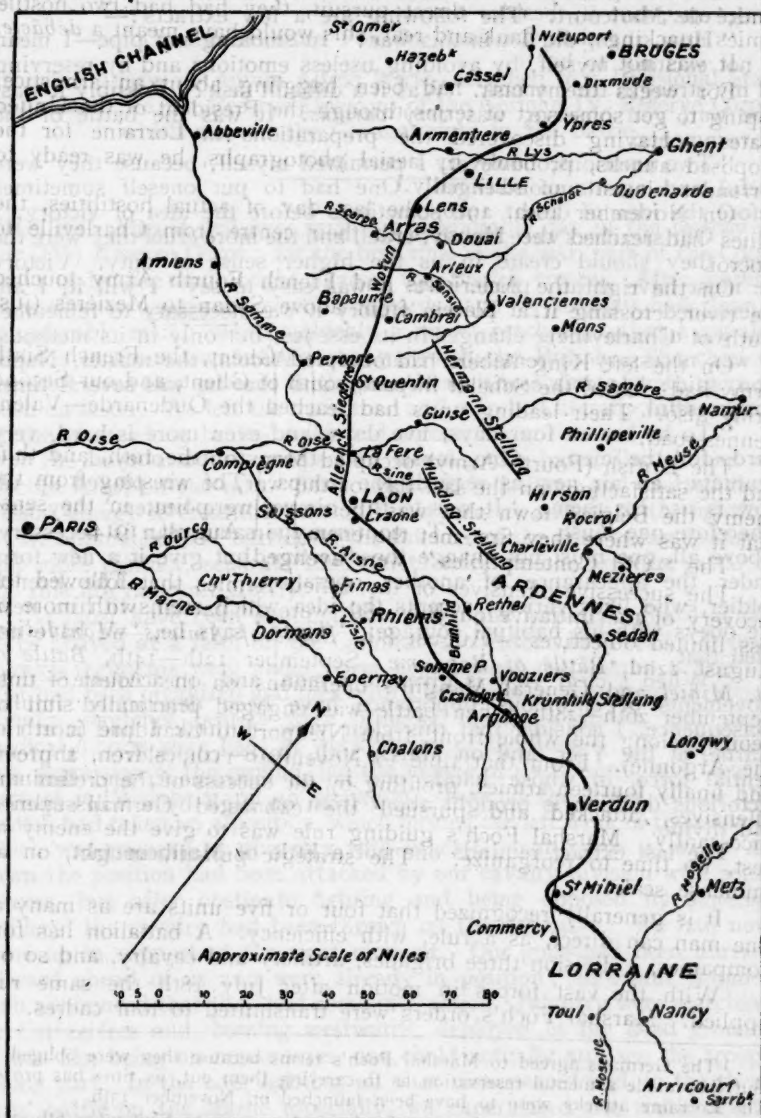
It is generally recognized that four or five units are as many as one man can direct, as a rule, with efficiency. A battalion has four companies, a division three brigades, artillery and cavalry, and so on.

With the vast forces in motion after July 18th the same rule applied. Marshal Foch's orders were transmitted to four cadres.

<sup>1</sup> The Germans agreed to Marshal Foch's terms because they were obliged to. But they made a mental reservation as to carrying them out, as time has proved. The Lorraine attacks were to have been launched on November 13th.

<sup>2</sup> General Mangin's operations north of the Aisne, up to September 6th, were chiefly with the object of forcing the enemy to retire from the Vesle, by threatening his line of retreat.

## The Hindenburg Line



A very interesting *resumé* of some of Marshal Foch's remarks on the campaign—"transcendent ideas" the writer calls them—appeared on New Year's Day in the *Echo de Paris*, under the signature of André de Maricourt. The following are a few extracts:—

"How, then, did I win this war? In smoking my pipe—I mean in not exciting myself, by avoiding useless emotions and by reserving all my strength for my task. Was it a difficult task? Possibly it was. The war, you observe, was *very curious*. It was the battle of the Governments.

"Two emotions, however, I permitted myself, because they were useful and agents of strength. One had to put oneself sometimes before the idea of defeat and sometimes before the idea of victory.

"Our sacrifices were bloody, cruel, and the more cruel they were the more they should create in us the higher sense of duty. Victory we must have at any price. But it was easy to say 'I will it, I am determined to have it.' To win victory it was necessary to remember that war of men never changes in its essence, but only in its methods. It was necessary to remember that before Arcola, the master, Napoleon, said: '*Je dois sortir de Vérone*,' and that he was several times unsuccessful. . . . .

"To be beaten four days, five days, and even more is hard, very hard, for the men. One must find, then, to be obeyed, a new 'cantata,' an air new as regards the troops. The air played up till now is *usé* for them. 'It was to this air we were beaten,' they say. Therefore one must . . . . . To continue the same plan is necessary. Above all, one must not change the *directive*, but give it a new form under the appearance of another operation. . . . . The French soldier, who likes variety, accepts the idea which seems to him new. He obeys with his habitual courage. '*Tiens*,' says he, 'we have not tried that. . . . .'

"When a clear view is given to a man, and, on account of this, movements of enormous importance have been determined full of consequence, I consider that this clear view—I think I had it at the Marne, at the Yser, and on March 26th, 1918—comes from a providential force, in whose hands one is an instrument, and that the victorious decision is brought about from on high by a will superior and divine."

The last extract reminds one not a little of Marlborough.

## THE BATTLE OF LE CATEAU.

(Translated from *Von der Saale zur Aisne*).

From the Diary of Captain Alfred Wirth, attached to a Divisional Staff (apparently the 7th Reserve Division) of the German IV. Reserve Corps, which was on the German right in the battle.

THE 26th August will ever remain a memorable day in the history of our (IV.) Reserve Corps; for the first time in the war, part of the Corps came under fire and fought against the British troops. After leaving Valenciennes we turned south-westwards, and by midday had done a considerable march, when suddenly a report reached us that a cavalry division in front was heavily engaged with the British. The chief of the staff gave this message to the men himself in order to incite them to push on faster. We left the main road and marched literally to the sound of the guns, along bridle-tracks and across fields.

The news and the prospect of meeting the hated British had an electric effect on the men. They forgot their fatigue, and exerted their utmost energy to cross this difficult bit of country and reach the fighting. As we approached the battlefield the thunder of the guns became sharper and more distinct, separate shell bursts were visible, and the rattle of the rifle fire rang out clearly.

It must have been about 3 p.m. when the advanced guard of our corps arrived at a farm on the Cambrai—Le Cateau high road. Several cavalry regiments were under cover here behind the houses, a first-aid post had been organized and men with slight wounds were lying or sitting about; stretcher bearers were bringing in the wounded, and some medical officers were hard at work in one of the houses. To our front, in a depression of the ground, lay the village of Cattenières, and, south-west of it, Wambaix, on an elevation. Beyond the latter village the British had taken up a position, which formed the left flank of their army, which was engaged on this day with other German corps as well. At dawn the position had been attacked by our cavalry division with some success, but after obstinate fighting and being opposed by superior artillery, the cavalry had been thrown on the defensive. We had now come up in support at the right moment. Our guns had been hurried forward ahead of us and were already in position; incessant thunder soon announced that they had come into action. Infantry were marching on Cattenières and, turning westwards, deployed in the dead ground. It was like being on manœuvres, one could actually still see the troops taking part. In the later fighting all that disappeared and, in the three days' battle on the Marne especially, we experienced the truth of the "emptiness of the battlefield."

There is a windmill at the western exit of Wambaix, and the Divisional Staff were trying to reach it, as it promised a good view of the surrounding country. The enemy's shells were bursting behind and in front of the village, and for the first time we heard the short, sharp burst of their explosion and then the rush of the shrapnel bullets. Surgeons were working in the waiting room of the light railway station in front of the village, where the first wounded men of our infantry were brought to; they belonged to the 36th Regiment<sup>1</sup> which was heavily engaged, and had received its baptism of fire. The staff had just passed this place and were riding up across a field, when a shrapnel burst close by them. The horses reared up, and it looked for a moment as if a staff officer was hit, but he went on untouched. Shortly afterwards, the small three-cornered flag of the division, on the lance of a mounted orderly, appeared near the mill, marking the position of the staff for despatch riders and orderlies. Heavy rifle fire continued to our front, fresh infantry were sent up into the fight, and we gained ground slowly.

It was getting dusk, the flashes of our artillery became clearer, beyond our front line a village burst into flames, the smoke rose in clouds from it. Wambaix was also burning.

Sharpshooters had been discovered in some farm buildings, which were immediately set on fire, and the tongues of flame poured out in a moment from the house and sheds, and were reflected in the puddles on the street. Some cattle were bellowing with fright in the stalls, and I ordered them to be unfastened and driven out. This was successfully done and a few minutes later the building collapsed.

As the evening closed in, the sky in front of us became blood-red, behind us was the grey dusk; the fields and stubble were damp with rain. It was getting colder, but we still stayed near the windmill till a message arrived that the village of H———[? Haucourt] had been stormed by our troops.

The village streets were in darkness; by the light of my electric torch I wandered through the mud, past wagons, horses, cavalry and resting infantry, in my search for the school-house, where we were to spend the night. It was locked, and an enormous dog growled threateningly in the yard. Some nimble Jäger smashed in the window panes and, getting into the house, broke open the door; others shut up the dog in its kennel. The rooms were in fairly good order; the best room was to be the sleeping room, and straw was spread over the floor; the few beds in the upper rooms were reserved for the senior staff officers. After eating some bread and cheese with a mug of tea, we lay down on the straw close to the adjutants of the various units, who every evening had to come and wait for orders. We were all dog-tired; the regular breathing all around showed that my comrades were getting a refreshing sleep. For myself, however, there was none, all the impressions of the day were still too vivid in my memory to let my mind rest; the exhausting march, the slim Jäger Captain, with his muddy clothes

<sup>1</sup> 7th Reserve Division.

spotted with blood and his arm in a sling, who was the first to tell me of the fighting when I reached the farm, the cavalry horse nibbling at the close-cut stubble, with its rider lying tired-out on the wet ground by its side, the thunder of the guns and the noise of battle, the burning villages, the wounded with their expressions of agony, and the livid faces of the dead. Outside the sentry walked up and down, in the stall a horse snorted or jangled its chain.

My candle had almost burnt out when I at last got to sleep, but it was only for a short time, as orders arrived at 2 a.m. from the corps commander. The general staff officer was wakened up, and then began the issuing of orders, which lasted about an hour. As we were to parade at 4 a.m. I did not lie down again. The orderlies got the horses ready, fetched water and looked about for oats and straw. It gradually became lighter and a cool morning breeze got up as the day dawned. In the kitchen a large sized kettle full of good-smelling coffee sizzled over the fire, and an orderly was standing guard over this precious drink. The leading wagons drove past up the village street, despatch riders asked for divisional headquarters, and the infantry marched off. The day had begun and the advance continued.

The British had left the battlefield during the night and gone away in such haste that we did not succeed in catching them up again.



## GENERAL SORDET'S CAVALRY AT LE CATEAU, 26th AUGUST, 1914.

Extract translated from *Trois Mois au Premier Corps de Cavalerie*  
by E. LETARD, Veterinaire Aide-Major au 3e Hussards.  
(Paris: Plon-Nourrit).

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[NOTE BY TRANSLATOR.—The 3e Hussards were in General de Lastour's 3rd Cavalry Division. The book is a diary written from day to day and, as General Conneau says in the preface that he contributes, "contains only an account of the events at which the writer was present . . . and abstains from comments on the operations." The whole book is well worth study].

August 25th—September 5th, 1914.

WE arrived at Berlaimont (east side of the Forest of Mormal) from Hargnies on the evening of August 24th, and left it next morning; there were rumours that the whole French army was retreating. We marched through the Forest of Mormal, where infantry were digging some sketchy trenches; we passed through Landrécies and in the afternoon reached Caudry, where there were the most alarming stories. Naturally there was talk of treason! One old man said, "I saw 1870, it was just the same thing; always sold!" With nothing but this stuff to encourage us, and soaked by several hours of uninterrupted rain, we arrived at Aubancheul-au-Bois (eight miles south of Wambaix, the British left flank in the coming battle). There were, of course, not enough fires in this small village to dry us all. At midnight we lay down on beds of straw, and rose at dawn tired out and numbed, our clothing still stiff and wet.

The 26th was to be a day rich in exciting moments. We moved forward northwards, in the direction of Cambrai; the Germans, it was said, had already debouched from the Forest of Mormal; strong forces of the enemy cavalry were reported in the neighbourhood, and all the morning was spent in feverishly seeking for them.<sup>1</sup>

At midday, there was a rumour that an important action was taking shape, and that "we are about to charge." The 3rd Hussars advanced into the plain between Wambaix and Maisnières, south of Cambrai. Hidden behind a crest, that limited our view, the regiment deployed into battle formation, and the neighbouring regiments followed suit. The squadrons changed positions several times, advanced, retired; eventually, after finding a favourable place from which to take off, they

<sup>1</sup> Yet the presence of the British Army does not seem to have been discovered. French Cavalry Scouts were, however, seen by the 4th Division in the early morning.

halted. At the head of the regiments, squadrons and troops were the officers, the professionals of the army, awaiting as a glorious apotheosis, the intoxication of the charge they so longed for, the aim of all their instruction and that of their men, and the desire of all.

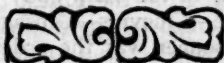
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The Anglo-Arabs will be off as if shot from catapults when the trumpets sound the charge, but the trumpets will never sound it. A more powerful and more brutal voice is about to speak, that of the German guns; it thunders in front of us, their shells begin to burst near us, and our seventy-fives reply with activity. The fight is limited to a duel of artillery; it seems ordained that great bodies of cavalry shall never meet in combat with the *arme blanche*, and shall never do more than experience the emotions inseparable from the preparation for it.

At the end of the afternoon we made another retreat, of about twelve miles, which ended at Heudicourt, halfway between Cambrai and Péronne.

After a short fight, our squadrons occupied emplacements at the exits of Heudicourt, where our transport was, so that the opportunity afforded by our advance yesterday might be taken advantage of to carry out some necessary repairs and to shoe the horses. The work had hardly been commenced, when strong bodies of the enemy were reported a few miles from Heudicourt, on the road we followed last night. Preparations for leaving were made at once, and the horses hooked in in the twinkling of an eye. In spite of our retreat of last night, the Germans are already on our heels and it is infantry not cavalry that is after us.

[Then there follows a long description of an action against infantry and artillery, and the regiment eventually retired to Péronne, which it reached in the afternoon].



## THE GERMAN IV. CORPS AT LE CATEAU, 26th AUGUST, 1914.

(With some references to the action of the III. Corps.)

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Extract translated from *Im Siegesturm von Lüttich an die Marne*, by  
Oberleutnant der Reserve DR. HERMANN LOHRISCH.

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[NOTE BY TRANSLATOR.—Dr. Lohrisch belonged to the 1st Battalion 27th Infantry Regiment, 14th Infantry Brigade, 7th Division, IV. Corps of von Kluck's Army, which took part in the attack on Liège, the fight on the Mons Canal, the Battle of Le Cateau, and the Battle of the Ourcq, where he was wounded. He makes it clear that the German IIIrd Corps took part at the Battle of Le Cateau, as, indeed, we knew from the statements of Captain Bloem (12th Grenadiers, 10th Brigade, 5th Division, IIIrd Corps) in his book *Vormarsch*, where he describes going into action on the morning of the 26th, north of Le Cateau, with the 54th Field Artillery Regiment of the 5th Division].

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SOON after we left Brussels, reports reached us that the British were landing in Northern France. At first we did not believe it, for, although we knew that John Bull gladly came to help where two were being attacked by three, we also knew, on the other hand, his notorious way of letting others bleed for him. On the 23rd [August], however, these uncertain reports were corroborated by definite news that a British force of about 50,000 men, under Field-Marshal Sir John French, had taken up a position opposite us, behind the canal which lies in a straight line between Mons and Condé.

We marched off [from Torrebore, near Enghien] at 6 a.m., the Regiment [27th] at the rear of the main body of the division, and went through Basilly—Brugelette—Chievres—Grosage—Beloil to Stambruges, a march of 25 miles. No sooner was the order given here for us to rest than news arrived that the corps on our immediate left<sup>1</sup> had captured the canal crossing at Jemappes. As a result of this, our division received orders to advance and force the crossing in front of us. This task was carried out in a most gallant manner by our sister brigade<sup>2</sup> at the head of the column.

When it was getting dark, our brigade [14th] moved into the wood that extends between Stambruges and Ville Pommeroeul, a village that

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<sup>1</sup> III. Corps.

<sup>2</sup> 13th Infantry Brigade.

is only  $1\frac{1}{2}$  miles from the canal. We halted in the middle of the wood. Artillery clattered by along the road that passed to our right through the wood.

We were so tired that everyone fell asleep. . . . About midnight, the noise of battle ceased and, dog-tired, we dragged ourselves into Ville Pommeroeul in thick darkness, and were allotted two houses as billets for the whole company [the 4th].

. . . . On August 24th the regiment moved off at 6 a.m. to the railway that crosses the road, going southwards about half-way between the village and the canal. Here my battalion [the 1st] was ordered to advance in an easterly direction and operate against the enemy at Hamaide, so as to support the right wing of the corps on our left, whilst the 2nd Battalion was sent off in the opposite direction to help our sister division<sup>1</sup> which was still fighting there at the canal crossing.

We first advanced on to the railway embankment, and then deployed in the damp meadows beyond it. The deep dykes and swampy ground made progress very difficult. . . . However, our exhausting labours were repaid and the enemy retired. Without having come into action, we then returned to the regiment, as also did the 2nd Battalion, and were given time to breakfast on the railway embankment.

At 9 a.m. the regiment crossed the canal. . . . At Sardon, on the far side of the Haine Brook, we halted again for a few hours' rest. . . . The British in the meantime had occupied a position a mile or so in front on the high ground north of Elouges. At 1 p.m. orders for the attack arrived. Our sister-brigade was to advance first on both sides of the Sardon—Thulin—Elouges road, my brigade was to follow in echelon on the right, with my regiment at 300 yards distance in rear, and at 150 yards interval from the other regiment of my brigade. On our left the neighbouring corps was to attack, and on our right the other division of my corps. A heavy fight immediately developed to our front. . . . Pressing forward, we gradually reached and crossed the Valenciennes—Mons road, near Elouges railway station. Behind a hedge bordering the railway must have been a British position, for we found a number of British great coats, packs and other articles of infantry equipment there. On the shoulder straps of the coats were the words, "Norfolk" and "Manchester" in brass letters. . . . A short halt here gave us an opportunity of watching the effect of our machine-gun company, which opened fire on our right against the enemy, from one of the many slag-heaps in this district: He, in many places, offered a more stubborn and gallant resistance than we had yet met with. . . . Elouges was taken by our division and Baisieux by the division on our right. The enemy appeared to be giving way along the whole line, and so we continued the advance. . . .

At 6 p.m. we reached Audregnies, and two battalions went into billets there, whilst the 2nd Battalion spent the night in Baisieux. A

<sup>1</sup> 8th Division.

section of the 7th Company was left behind to guard the bridge over the canal and the one over the Haine Brook. . . .

The following morning, the 25th, began one of the most strenuous marches we had had. At 5 a.m. we were ready to move off from the market place, which was close to our billets, but the march orders did not arrive, so the officers brought some chairs out of the inn and breakfasted in the street on bread and bacon. At 8 a.m. we marched off, our brigade leading. At Marchipont we crossed the French frontier and then went on through Sebourg, following on the heels of the defeated British troops.

. . . . In Le Quesnoy, news reached us of the fall of Namur. It was greeted with loud cheers, and we marched through the streets singing "Die Wacht am Rhein." We went on through Englefontaine and Fontaine-au-Bois, and finally, at 11 p.m., arrived dead-tired at Bousies, where we were to pass the night. . . . I saw my section [the 1st] into its billets and found the most luxurious quarters for my captain and myself that we had yet been in. Each of us had a well-furnished sitting room and a bedroom, with a most stately bed. I had just filled the jugs with fresh water and lit the candles in the bronze candlesticks, when the "Alarm" sounded. O Jesus! The last look that the owner in Schiller's "Glocke" gave his burnt-down property could not have been sadder than ours. When I went out into the street, our men were already streaming in from all sides, limping and swearing. After the great exertions of that day I could sympathise with their disgust. We moved into the centre of the village again, and were told that our advanced guard had come up against the enemy at Landrécies to the south-east. Our 2nd and 3rd Battalions, which were billeted in Robersart and Fontaine-au-Bois, as well as two of our companies, were immediately sent off towards Landrécies. My company and the 1st Company were more fortunate and remained in the market square of Bousies to protect the artillery, and were thus able to spare our aching bones and muscles. The men were so tired out that they immediately went to sleep on the hard paving stones. Soon afterwards we were given permission to go into the houses near by. I quickly put away two rolls and butter into my starved inside, and then found a sleeping place on a mattress among my crowded men.

The 26th August was another great day for Kluck's Army. The thunder of guns in the early hours of the morning told us that a battle was in progress. At 5.45 a.m. the regiment received orders to occupy Landrécies; the exhausted troops who had been sent towards it during the night had been held up in the darkness by the difficulties of the country. As, however, the enemy had in the meantime withdrawn, we had to turn back at Fontaine-au-Bois and, in accordance with a second order, moved off towards Forest at the head of the brigade. On our arrival there, we found our corps already heavily engaged with the British troops, who were in an entrenched position on the high ground west of Le Cateau, on the far side of the high road to Cambrai. It must have been nearly midday when we were ordered to advance on both sides

of the Forest-Le Cateau road and support our sister brigade [13th], which was attacking on both sides of the Forest-Montay road<sup>1</sup>. As the latter was making good progress, we received another order to move round to the left and make an enveloping attack against the enemy's right flank.

Le Cateau lies in the narrow valley of the Selle, with bare steep slopes rising up on all sides. The stream flowing north and south divides the town into a western and eastern part; and as the battle was raging on the western side of the river, we moved round the eastern part of the town, towards the railway station at the southern end. I can clearly remember how, in order to arrive in time, we hurried on up the hill, in feverish haste, on to the high ground which gave a good view of the surrounding country. . . . I remember that we brushed against the left flank of the neighbouring corps<sup>2</sup>, which had pressed on even farther than ourselves, and how curious it was to be able to watch our firing line advancing on the high ground on the other side of the village, with shrapnel bursting all round it, whilst we remained immune from such danger.

At last, turning westwards, we came to a road going southwards out of the town towards the railway buildings. Half-right were the houses of Le Cateau, and the station lay to our left. In front of us the ground gradually sloped down from the road to the stream, which in this part flows almost parallel with it towards the town. Beyond the stream rises the ridge on which was the British position. The German skirmishing lines of the sister division [the 8th] kept moving up towards the high ground like waves washing up on to a sea beach, although we saw that many remained on the ground. The supporting lines often made signals across to us and we considered that as being a request for assistance, the company commanders deployed their leading sections into the valley, whilst they themselves, with the remainder of the companies, continued their march southwards down the road. . . .

I extended my section and advanced towards the stream. It was too wide to jump over and too deep to wade across. "There is a bridge to the left," the men said, "the one in the town is blown up." In a few minutes we were across, and my section was extended again on the far side. In the meantime, however, the noise of battle had diminished. The enemy had realised the danger of envelopment that threatened him and had evacuated the ridge. The victory was won, and when we were half-way up the hill the order came for the sections to return and, re-crossing the river, we joined up again with our companies, who had halted and piled arms. We then lay down by the roadside and waited for further orders. . . .

At 5 p.m. an order arrived for us to pursue the beaten enemy along the road to Honnechy. As the 3rd Battalion, at the head of the column,

<sup>1</sup> Two roads diverge from Forest, one going to Le Cateau, and the other to the west of it via Montay to St. Quentin.

<sup>2</sup> This must have been the III. Corps.

approached that village, it was suddenly fired on and had some casualties. It deployed to attack but received another order to stop the advance, as the neighbouring corps<sup>1</sup> was approaching the village at that moment from the south. The 3rd Battalion therefore took up an outpost position near Honnechy, and at 8 p.m. the other two battalions bivouacked on both sides of the road west of St. Benin.

Thus ended the day of Le Cateau, though our regiment had not really been in action. It was the last of the four days of battle against the British, which the British official report regards as one battle, lasting from the 23rd to the 26th, but which our own official report divides into the two battles of Maubeuge and St. Quentin. A great success had been gained. . . . regiments of the neighbouring corps on our left, which later on marched over the battlefield saw on all sides the traces of the enemy's hurried retreat.<sup>2</sup>

<sup>1</sup> The III. Corps.

<sup>2</sup> Heubner, in *Mit Emmich vor Lüttich, mit Kluck vor Paris*, and von Brandis, in *Die Stürmer von Douaumont*, who belonged to two different infantry brigades of the 6th Division III. Corps, describe passing over the battlefield.

Bloem, in *Vormarsch*, of the 12th Grenadiers of the 5th Division III. Corps, describes being in action alongside the 54th Field Artillery Brigade of the 5th Division at Le Cateau. His battalion billeted at Jolimetz and moved down the main road towards Forest next morning. He does not give further movements. He mentions they were informed that the 48th Infantry Regiment of the other infantry brigade (9th) of the 5th Division was in action with the British on the previous night. According to von Kluck's sketch given in Major-General Maurice's article, on the battle of Le Cateau in the *National Review* for November, 1919, it must have been at Landrécies, though other information from a German General indicates an infantry brigade of the X. Corps was also there.



## NAVAL NOTES.

### GREAT BRITAIN.

The Notes in this issue of the JOURNAL cover the period from October 1st to December 31st. The chief events during this period were the appointment of Earl Beatty as First Sea Lord, the abolition on grounds of economy of the Home Fleet, and the issue of revised Navy Estimates for the current year. The Atlantic Fleet returned to its home ports from the north in December to give Christmas leave, on the conclusion of which it was expected to leave for a cruise to the Mediterranean early in the new year. During the period under review the British naval forces were withdrawn from the Baltic and White Seas.

### THE BOARD OF ADMIRALTY.

It was officially announced on October 13th that Admiral Sir Rosslyn E. Wemyss had requested permission to resign the office of First Sea Lord, which he had held since December, 1917. This resignation had been approved by the King, who was also pleased to approve of the special promotion of Sir Rosslyn Wemyss to be Admiral of the Fleet in recognition of his eminent services on the Board of Admiralty, the promotion to be in addition to the ordinary number of Admirals of the Fleet. The King was also pleased to approve of the appointment of Admiral of the Fleet Earl Beatty as First Sea Lord in succession to Admiral Sir Rosslyn Wemyss.

The change thus announced took effect on November 1st. On taking office, Lord Beatty appointed Commander R. M. Bellairs, who served as War Staff Officer in the Grand Fleet flagships all through the war, as Naval Assistant to the First Sea Lord; and Commander R. F. Seymour, who was Flag-Lieutenant to the Admiral all through the war, as Additional Naval Assistant. In lieu of a Civil Service official in the Department, Lord Beatty appointed Paymaster-Commander F. T. Spickernell, his former Secretary in the "Lion" and "Queen Elizabeth," as his Secretary at the Admiralty.

The barony conferred upon Sir Rosslyn Wemyss was gazetted by the name, style, and title of Baron Wester Wemyss, of Wemyss, in the County of Fife. On October 16th, replying for the Navy at the Cutlers' Feast at Sheffield, Lord Wester Wemyss defended himself and the Admiralty against criticisms in the Press. Regarding the Admiralty, he said: "There is but one field of naval operations extending over all the world, namely, the sea. Moreover, by that immemorial tradition which obtains in all navies of the world, the naval Commander-in-Chief with his staff goes into action at the head of his forces. Thus it is impossible for a naval Commander-in-Chief afloat to be the centre whence the strategical direction of naval war radiates. The result is that the Board of Admiralty, located in London, is necessarily the centre whence radiate the executive orders as regards operations and movements of ships, and it exercises, as far as the Navy is concerned, many of the functions of the military Commander-in-Chief in the field. These conditions necessitate a large and efficient staff organization. At the commencement of the war this, I am afraid, was lamentably inadequate, and it is only now that, with hard experience to guide us, we have reached a point when it can be truly said that there exists an efficient and admirable Naval Staff."

The title adopted by Sir David Beatty on being raised to the peerage for his services in the war was Baron Beatty of the North Sea and of Brooksby in the County of Leicester, Viscount Borodale of Wexford in the County of Wexford, and Earl Beatty. Speaking at a dinner given in his honour in November, the new First Sea Lord referred to the need for economy which now faced the country. Economy to the nation, he said, hit the individual, and the active service individual it was going to hit very hard. As First Sea Lord it was his duty to see that economies were brought about to save the purse of the taxpayer. That was right and just, but it was a hard duty to perform, because it meant that many hundreds of gallant men who had given their lives to the service of their country had to face a future that was not altogether bright.

#### NAVAL COMMANDS.

With the exception of the North American Station, no new flag appointments in the naval commands afloat were made during the quarter. Several changes occurred, however, consequent upon the peace reductions. On the abolition of the Home Fleet on October 31st, Vice-Admiral Sir Henry Oliver became Vice-Admiral Commanding the Reserve Fleet (short title, V.A.R.F.), and the Rear-Admirals under his orders took the title of Rear-Admiral, Reserve Fleet (short title, R.A.R.F.). Simultaneously, Rear-Admiral Sir Douglas Nicholson, who had been Rear-Admiral Commanding, Third Battle Squadron, Home Fleet, became Rear-Admiral, Reserve Fleet, Portland, at which base most of the ships of his former squadron were stationed in reserve. In November it was decided that the R.A.R.F., Portland, should take over the duties of the Rear-Admiral, Portland, which had been carried out since November 27th, 1917, by Rear-Admiral V. H. G. Bernard. The appointment of this officer was terminated on November 27th, 1919, when the Rear-Admiral, Reserve Fleet, became responsible to the Commander-in-Chief, Portsmouth, for the administration of the Dockyard and Naval Establishments, and to the Vice-Admiral Commanding Reserve Fleet for the administration of ships in reserve and for disposal. His flag continued to be flown afloat.

The flag of Vice-Admiral C. F. Dampier was hauled down at Dover on October 15th when that base was demobilized as a separate flag command. The appointment of Admiral of Controlled Minefields terminated on the same date. Commodore A. P. Davidson, formerly in charge of all naval shore establishments and King's Harbour Master, was appointed Senior Naval Officer, Dover, temporarily, to date October 16th.

Changes in the organization of the Coastguard were decided on to take effect from January 1st, 1920, under which the control of the stations passed directly under the respective naval Commanders-in-Chief at the home ports. The captains in command of Coastguard Districts were appointed to the Staffs of these Commanders-in-Chief with the title of "Coastguard Captain," Captain H. A. Adam, Commanding the Eastern Coastguard District, being made Coastguard Captain on the Staff of the Admiral at the Nore; Captain C. B. Miller, Commanding the Western Coastguard District, taking up an appointment as Coastguard Captain on the Staff of the Commander-in-Chief at Devonport, and so on. At the same time, the following appointments to commands of areas were made:—Captain S. H. Radcliffe to command the Humber Area; Captain D. B. Crampton to command the Irish Sea Area; Captain W. D. Church to command the Kingstown Area; and Captain E. G. Lowther-Crofton to command the Buncrana Area.

It was officially announced on November 1st that Vice-Admiral Sir Trevelyan D. W. Napier had been selected to succeed Vice-Admiral Morgan Singer as Commander-in-Chief on the North American and West Indies Station, to date from December 1st. It was announced that the Vice-Admiral would leave England

for Bermuda on or about January 5th, 1920, and that his flag would be flown temporarily on shore at Admiralty House, Bermuda.

The appointment of Rear-Admiral Michael Culme-Seymour as Rear-Admiral in the Black Sea and Sea of Marmora was terminated as from October 19th, 1919, and he was appointed Second-in-Command of the Mediterranean Fleet as from October 20th, 1919. He was appointed to the Black Sea command on January 1st, 1919.

On December 31st Rear-Admiral Sir Francis F. Haworth-Booth terminated his appointment as Naval Representative for the Commonwealth of Australia in London. In relinquishing this post, which he had held since December, 1911, Sir Francis expressed to the Board of Admiralty his sincere thanks and appreciation for the invaluable consideration, advice, assistance, and courtesy invariably rendered to him at all times. He added: "I have duly acquainted the Commonwealth Naval Board, Melbourne, that without the advice, assistance, and cordial co-operation indicated above, it would have been impossible to obtain whatever measure of success has resulted in Australian naval matters."

#### THE NAVY ESTIMATES.

On December 5th, revised Navy Estimates for the current financial year, ending on March 31st, 1920, were presented to Parliament, accompanied by an Explanatory Statement by the First Lord [Cmd. 451]. It was announced in the Statement that "The Navy Estimates for 1919-20 as now presented to the House of Commons amount to a net sum of £157,528,800. This amount exceeds the forecast of £149,200,000 shown in the White Paper presented last March by £8,328,800. As was pointed out to the House of Commons at the time, the forecast made in March, although the best that could be made in the circumstances actually existing, was not in any sense a detailed estimate, the data for preparing which were not then available. Since March additional items of expenditure—some of which could not be foreseen, whilst others, such as the improvement in pay for the personnel of the Navy, were foreseen, but could not be estimated for—have matured for inclusion in these Estimates. The chief of these items are as follows:—

Additional pay and pensions for the officers of the Fleet	£2,400,000
Additional pay and pensions for the men of the Fleet ...	8,000,000
Increase in rates of war gratuities and extension to mercantile officers employed in the Naval Service	3,000,000
Transfer to Navy Votes of expenditure on account of hire of vessels for naval purposes and freight of fuel and stores, which during the war was borne by the Ministry of Shipping. ... ..	6,500,000
Extra provision required for reconditioning of hired vessels ... ..	2,750,000
Special requirements of fuel, etc., owing to the presence of the Fleet in Russian waters and Eastern Mediterranean ... ..	4,250,000

The total of the additional items of expenditure was slightly over £27,000,000. On the other hand, the progress of the peace negotiations and the consequent ascertainment of many factors that were quite uncertain last March, and further, the close review which the Admiralty have since made of all services and expenditure, have made it possible to set off a reduction of £19,000,000 against the additional items referred to. This reduction is accounted for to the extent of £9,000,000 by increased appropriations in aid, chiefly in respect of receipts from the Allies

for fuel supplies and the sale of stocks of coal owing to the withdrawal of coal-burning ships from the Navy. The resulting increase of £8,328,800 would have been less by about £3,000,000 but for the decision that the proceeds of the sale of surplus naval war property dealt with by the Disposals Board should be credited to the Ministry of Munitions and not to the Admiralty.

Introducing the revised Navy Estimates in the House of Commons on December 10th, Mr. W. Long said it had been found impossible at present to decide the lines on which the naval policy of the future would be established. He characterized as unjust the criticism that the Board of Admiralty had been unmindful of their duty to secure reductions. Of the total estimates of £157,000,000 more than one-half was non-recurrent war expenditure. At the time of the armistice the personnel was 407,000; to-day it was 150,000. Complaint was made during the debate that the statement of the First Lord lacked any disclosure of a definite policy in relation to the future. Dr. Macnamara, replying to the debate, said the question of future policy was one for the Board of Admiralty and the War Cabinet, but it was impossible to determine it.

#### PEACE REDUCTIONS.

Considerable progress was made during the quarter in reducing the Fleet and naval establishments to a peace footing. The abolition of the Home Fleet on October 31st has already been mentioned. This force had already, on October 1st, been reduced to a reserve status. A reference to the further change was made by Mr. Austen Chamberlain, Chancellor of the Exchequer, on October 29th, when in the course of the economy debate in the House of Commons he said that as a result of discussions between the Treasury and Admiralty, five battle-ships of the Home Fleet had gone from special complement to reserve; two battle-cruisers from full complement had gone, one to reserve and one for sale; and drastic reductions were being made in smaller ships.

The bases and establishments demobilized were numerous and varied. The naval base at Lerwick, which remained open until after the final return of the vessels from the White Sea, was closed on December 13th, and the Nab Port War Signal Station, Lerwick, on December 18th. At the same time instructions were given for Cromarty wireless station to be closed and dismantled forthwith. The active service ratings employed there were returned to depôt, except such as volunteered and were selected for transfer to the Coastguard. Inverness naval base was closed on October 15th, and on the same day the Naval Experimental Station at Hawkraig was closed. On December 20th orders were issued for Dundee naval base to be closed down on or about January 1st, 1920. A staff of overseers was to be retained after the closing of this base in connection with the reconditioning and return of hired vessels to their owners. On December 20th also the Medical Demobilization Board at Aberdeen was withdrawn. The R.N. Auxiliary Hospital, Peebles, was closed on November 1st, when all the patients had been removed to the base hospitals. The building was then surrendered by the Admiralty on evacuation. The naval base at Oban was closed on November 11th, and the sub-base at Fleetwood on November 15th.

On December 31st arrangements were made for the Senior Naval Officer, River Tyne, to transfer all work connected with reconditioning to the Admiral-Superintendent, and orders were given for the paying off of H.M.S. "Satellite" on January 15th, when the appointment of S.N.O., Tyne, was to cease. Commanding officers of vessels proceeding to the Tyne for reconditioning were instructed to report to the Admiral-Superintendent, 4, Osborne Villas, Osborne Avenue, Newcastle-on-Tyne. On December 17th, it was notified that all ranks and ratings remaining at Grimsby naval base, previously borne on the books of H.M.S.

"Pekin," had been placed on the books of the "Pembroke," depôt-ship at the Nore. The ledger of the Grimsby naval base is now known as "Pembroke VII." The combined bases at Great Yarmouth and Lowestoft (amalgamated on September 20th, as announced in these Notes last quarter) were closed on November 30th. Any matters remaining were ordered to be dealt with by the Engineer-Captain at his headquarters at Commercial Road, Lowestoft, with an office at Messrs. Fellows & Co., Southtown, Great Yarmouth. Skippers of drifters arriving at Lowestoft or Yarmouth were instructed to report to the Engineer-Captain. Ramsgate naval base was closed on October 14th, after which date no further route instructions were issued.

Dover naval base was closed on October 15th, when Vice-Admiral Cecil F. Dampier, C.M.G., hauled down his flag. On October 7th the naval bases at Ostend and Zeebrugge were closed, and the appointment of Senior Naval Officer, Ostend, abolished. From the closing down of the Naval Mail Office at Dover, all correspondence relating to the Belgian Coast salvage operations was ordered to be addressed to the Commodore-in-Charge, British Admiralty Salvage Section, 44, Rue de L'Eglise, Ostend. From the closing down of the Victualling Paymaster's Office, Dover, ships requiring provisions from that base were directed to demand supplies from the Admiralty contractors or the Navy and Army Canteen Board. In connection with the closing of Falmouth base, referred to last quarter, the ranks and ratings remaining at this port, previously borne on the books of H.M.S. "Dreel Castle," have been placed on the books of the "Vivid IV." as from September 16th. Similarly, all ranks and ratings at Milford Haven (previously borne on the books of H.M.S. "Idaho") have been placed on the books of H.M.S. "Vivid V." as from October 1st. The Medical Demobilization Board at Milford Haven was ordered to be withdrawn in December, and the medical examination for demobilization of trawler ratings at Milford Haven to be carried out by the Admiralty Surgeon and Agent at the port. Directions were given in December for Vice-Admiral R. J. Prendergast, C.B., to haul down his flag as Vice-Admiral Commanding, Orkneys and Shetlands, on February 15th, 1920, when the base at Scapa was to be reduced to peace status and the command transferred to the Commanding Officer, North of Scotland Area.

As regards reductions in the transport staffs and bases, the appointment of P.N.T.O., Eastern Mediterranean, was terminated on November 15th, when the D.N.T.O.'s, Cairo and Constantinople, took charge of their respective areas. The former became responsible for transport work in Egypt and the Syrian Coast, and the latter for Constantinople, the Black Sea, the Dardanelles, and Salonika. The transport base at Taranto was closed on November 1st. Commodore Sir Malcolm Macgregor relinquished his post as P.N.T.O., France, on November 15th, and from the closing of the Transport Office at G.H.Q., France, the D.N.T.O., Boulogne, became Senior Transport Officer in France. The Transport Officer at Capetown was withdrawn on December 5th, when the S.N.O., Simonstown, became responsible for transport work, the Union Castle Mail S.S. Co. acting as agents at Capetown. The transport base at Rotterdam was closed on November 22nd. Captain C. W. S. Leggatt relinquished his appointment as D.N.T.O., Devonport, on November 15th, and was succeeded by Commander W. B. Mackenzie, who will act as Naval Transport Officer in Charge. The transport base at Salonika was closed in November, but Lieutenant H. Woolright, R.N.R., remained on the station to liquidate affairs.

Apart from transport bases, the only stations demobilized abroad were those at Baku and Syra. It was announced on November 1st that the office of the Resident Naval Officer at Baku, and the ledgers kept there under the name of H.M.S. "Theseus II.," were closed on September 2nd. The naval base at Syra was closed on October 1st, when the functions of the S.N.O., Syra, ceased.

## RUSSIAN OPERATIONS.

During the quarter the active operations of the British naval forces in the Baltic and White Seas were concluded. The vessels from the White Sea returned in October, and included the battleship "Glory," the light cruiser "Fox," the "Ladas," "Haldon," and "Hyderabad"; the aircraft carriers "Nairana" and "Pegasus"; the monitors "Erebus," "Humber," and five "M" class; and the river gunboats "Glowworm," "Cicala," "Cricket," "Cockchafer," "Moth," and "Mantis," with the tunnel mine-sweepers "Step Dance" and "Morris Dance," and the "Cyclops," repair ship. The Admiralty congratulated Rear-Admiral John F. E. Green, C.B., and the officers and men of the White Sea Expedition on their return home after the successful conclusion of their arduous time in the White Sea. Seven days' extra leave was granted to the crews of all ships returned from the White Sea.

The Baltic Force under Rear-Admiral Sir Walter Cowan returned to the United Kingdom at the end of December, when the following telegram was sent by the Admiralty to the Rear-Admiral:—"The Board of Admiralty desire to convey to Rear-Admiral Sir Walter Cowan, and to the officers and men of the Baltic Force now returning to England, their marked approbation of the manner in which the work of the Force has been performed. The Baltic Force has during the past year cheerfully endured trying conditions, and when occasion offered has attacked the enemy with the utmost gallantry. It has prevented the destruction of States which have upheld the Allied cause, has supported the forces of civilization when menaced by anarchy, and has worthily upheld the honour of the British Navy. This record is the more praiseworthy because it comes after the long previous strain of war, at a time when the other Forces of the Crown have, for the most part, been enjoying a relaxation of effort. The Board's gratification is to be made known to all concerned."

The Admiralty approved of extra leave for service in the Baltic up to a maximum of seven days, at the rate of one day for every fourteen days or part thereof, to be reckoned from the date of leaving the United Kingdom to the date of return thereto, and considered as retrospective to April 21st, 1919. This extra leave was to apply to all vessels which had served in the Baltic east of Copenhagen, but not to apply retrospectively to individual ratings who had been discharged to vessels not employed on service in the Baltic, or to depôts.

On October 9th, the Admiralty issued a despatch from Rear-Admiral M. Culme-Seymour, commanding the naval forces in the Black Sea, containing a report from Commodore D. T. Norris of the action off Fort Alexandrovsk, in the Caspian Sea, in May, 1919.

## BOOKS BY ADMIRALS.

The quarter was notable for the issue of volumes of reminiscences by four admirals who were prominently concerned in the sea warfare. On Trafalgar Day Admiral of the Fleet Lord Fisher published a book entitled "Memories," and on December 8th (the Falklands anniversary) a second entitled "Records." On October 29th Admiral Sir Reginald Bacon's work on "The Dover Patrol," which he commanded during the three years 1915-17, was issued in two volumes. On November 7th the reminiscences were published of Admiral Sir Percy Scott, who was Gunnery Adviser to the Admiralty during the war, and also at one time in charge of the anti-aircraft defences of London. There were also published in November "My Memories," by Grand Admiral von Tirpitz, formerly German Naval Secretary of State.

## NAVAL OCCURRENCES.

**NAVAL COMMITTEES.**—On October 1st it was announced that an Admiralty Committee had been appointed under Rear-Admiral T. Jackson, C.B., to investigate the conditions of service in the Signal, Telegraphist, and Detector Branches. An Admiralty Committee was also appointed under Captain Ralph Eliot to consider the advisability, or otherwise, of amalgamating the Writer and Victualling Branches. On the Home Office Committee considering the advisability of adopting the 24-hour clock in the United Kingdom, Captain J. E. T. Harper, Director of Navigation, was appointed to represent the Admiralty. In succession to Vice-Admiral Sir Trevelyan Napier, on the latter's appointment to the North American Command in December, Rear-Admiral Sir Lionel Halsey was appointed President of the Accountant Officers' Committee.

**BOAT BADGES.**—Early in October it was ordered that, prior to the sale of any boats returned from ships which were employed on active service during the war, one badge of each design should be removed and forwarded to the Imperial War Museum Stores at the Crystal Palace. Two cases of such boats' badges were exhibited at the Sea Power Exhibition, 1918, in aid of King George's Fund for Sailors.

**THE DESTROYER COMMODORE.**—On October 8th, the functions were defined of the Commodore (D), who is in command of the destroyer flotillas of the Atlantic Fleet, and responsible to the Commander-in-Chief for their general conduct and efficiency. He is to maintain touch with other destroyer flotillas in home waters, in order that he may be fully acquainted with the forces likely to come under his command on mobilization, and that all destroyer training may be carried out on uniform lines. He is also authorized to correspond direct with the captains of the "Excellent" and "Vernon," the Director of Training and Staff Duties, and Director of Naval Artillery and Torpedo, on matters within their respective provinces.

**WELFARE COMMITTEE.**—On October 14th, the advisory members of the Admiralty Welfare Committee chosen by the lower deck organizations proceeded to London and assembled at Victory House under the directions of Admiral Sir Martyn Jerram, President of the Committee. No official statement was issued concerning the outcome of this autumnal conference.

**ENGINEER OFFICERS' PROMOTION.**—On October 15th it was announced that promotions to the rank of Engineer-Commander would be made in a similar manner to those to the rank of Commander, viz., by selection in half-yearly batches in June and December, the first selection being made in June, 1920. To facilitate selection, recommendations of Engineer-Lieutenant-Commanders for promotion to Engineer-Commander were ordered to be forwarded periodically by flag officers, as in the case of Lieutenant-Commanders.

**PROMOTION TO CAPTAIN.**—It was also announced that in future the policy of selection, already provided for in the regulations and Orders in Council, would be more strictly exercised in regard to promotions to the ranks of Engineer-Captain, Surgeon-Captain, and Paymaster-Captain. Vacancies arising up to and including January 1st, 1920, were to be filled as they occurred, but subsequent promotions were to be made half-yearly only, on June 30th and December 31st, and Commanders-in-Chief were directed to forward recommendations by May 15th and November 15th in each year.

**MIDSHIPMEN AND ENGINEERING.**—On October 15th the Admiralty ordered that the proportion of time allotted to the instruction of midshipmen afloat in engineering was to be continued at one-eighth (as during the war) for all midshipmen. At one year after going to sea midshipmen who wish to do so, with a view to qualifying later for (E) duties, are to be allowed to increase to one-third the proportion of time devoted to engineering. The order added: "The examination in engineering and the certificate of engine-room watch-keeping are to be voluntary; but they will be a necessary qualification for an officer volunteering to specialize in (E) duties, after sufficient time has elapsed to enable peace regulations to come into force." On December 3rd it was notified, as the examination of midshipmen in engineering was now optional, that those midshipmen who failed in September would not be required to undergo further examinations in that subject.

**MIDSHIPMEN FOR THE R.A.F.**—On October 18th arrangements were announced under which a limited number of junior naval officers from Osborne and Dartmouth, over the age of 18½ and under 20, could enter the Royal Air Force College without examination or fees, apart from the cost of books and instruments. The Admiralty notified that in view of the surplus of junior officers over the actual post-war requirements, the scheme offered an exceptional opportunity of transferring to those who considered that the R.A.F. offered better prospects than the Royal Navy.

**AIRSHIP SERVICES TRANSFERRED.**—On October 22nd, following on the decision of the Government that the Air Ministry should be responsible for the airship services, all the lighter-than-air ships, with stations, machinery, plant, stores, etc., were transferred from the Admiralty to the Air Ministry.

**SEA TRANSPORT MEDAL.**—On October 22nd the approval of the King was announced to the decision that the Sea Transport Medal, which was instituted in 1903 as a standing decoration for award to Mercantile Marine officers for service in chartered troop transport during wars subsequent to that date, should be regarded as superseded—so far as the late war is concerned—by the Mercantile Marine Medal.

**MANŒUVRING MANUAL.**—Captain H. G. Adams, R.N., was appointed in October to the Department of the Director of Navigation to write a "Manœuvring Manual," to contain all the old remarks on handling ships, together with matter dealing with the subject previously embodied in the "Signal Manual." Suggestions as to the form of, and matter to be included in, the Manual were invited.

**NAVAL AIR UNITS.**—On October 25th, in modifying the home organization of R.A.F. units operating with the Navy, it was decided that all air units working with that service will in future be centralized under the command of an Air Force officer with the title of Air Officer Commanding the Coastal Area. This officer will be in command of all air units in the United Kingdom working with the Navy with the exception of personnel embarked in ships of the Fleet. He will be their lordships' adviser in the first instance on all questions appertaining to naval aerial policy, and act as adviser to the Naval Commanders-in-Chief at the various home stations. He will be directly responsible to the Air Ministry for the conduct of training, but will ensure that their lordships' views in this regard receive adequate consideration; and will be responsible to the Air Ministry on all questions of supply and maintenance of air units working with the Navy in home waters.

**THE NEW A.O.C.A.**—The first appointment to the new post of Air Officer Commanding the Coastal Area was that of Air-Commodore Arthur V. Vyvyan, C.B., D.S.O., formerly commanding the R.A.F. units in the Mediterranean. It was decided that the coastal area will be organized into the following administrative groups:—(a) Operational units in home naval commands; (b) 29th group; (c) 10th group. The 29th group will consist of the aircraft embarked in H.M. ships and their necessary shore bases and establishments, with headquarters at N. Queensferry; and the 10th group of the R.A.F. establishments maintained for the training of R.A.F. and naval personnel required by R.A.F. units co-operating with the Navy both at home and abroad, with headquarters at Warsash.

**MEDITERRANEAN A.O.C.**—At the same time that the above changes took effect it was announced that the title approved by the Air Ministry for the Air-Commodore in the Mediterranean was "Air Officer Commanding R.A.F., Mediterranean." The address of this officer is, Mediterranean Headquarters, Malta, and his short title is "A.O.C." It was ordered that these designations were to be used by the Navy in official correspondence and messages.

**THE "INDOMITABLE."**—On October 29th Mr. Austen Chamberlain announced in Parliament that the naval reductions included the withdrawal of two battle-cruisers from the fully-manned Fleet, one from the reserve, and one for sale. The last-named was afterwards stated to be the "Indomitable," the first of the battle-cruisers, completed in June, 1908. The vessel was still in the Reserve Fleet, however, on December 31st.

**THE ANTI-SUBMARINE SCHOOL.**—On November 1st the administration of the Anti-Submarine School, Portland, and of H.M.S. "Gibraltar," depôt-ship, was transferred to the Rear-Admiral, Reserve Fleet, Portland, under the V.A.C., Reserve Fleet. The instructional ship "Sarepta" was closed down on November 22nd, and all future instruction carried out as far as possible in the "Gibraltar." Correspondence formerly addressed to the "Sarepta" or to the Listening School, Portland, was ordered to be addressed to the Captain A/S., H.M.S. "Gibraltar."

**"GLORY" AT ROSYTH.**—On November 1st the battleship "Glory," returned from the White Sea, was paid off at Sheerness. She was afterwards navigated to Rosyth to replace the "Crescent" and "Sutlej" as depôt-ship in the Firth of Forth. Her ammunition was ordered to be removed before paying off, but no preparation for sale or removal of fittings was to be undertaken.

**STORING PORTS.**—It was ordered on November 8th that the ships of each squadron of the Atlantic Fleet will draw their stores in future from the same port and complete to a definite date, which is to be identical for all vessels in the squadron. Portsmouth will be the storing port for the Fleet Flagship, Second Battle Squadron and Second Light Cruiser Squadron; Devonport for the First Battle Squadron and Battle Cruiser Squadron; and Chatham for the First Light Cruiser Squadron. Ships will, however, complete with stores at their manning ports when they are there for refit or leave. Vessels in reserve are to draw stores from the dockyard at which berthed, or, in the case of ships in the Humber, from Chatham.

**PRESIDENT POINCARÉ'S VISIT.**—On November 10th, when President and Madame Poincaré arrived at Dover, they were received on the Admiralty Pier by a naval guard of honour. French destroyers had escorted the mail steamer in which the visitors travelled from France to mid-Channel, and from thence to England the escort was furnished by British destroyers. Rear-Admiral E. H. F. Heaton-Ellis joined the President's suite at Calais and accompanied M. and Mme. Poincaré

during their tour; and the naval arrangements at Dover were in charge of Commodore A. P. Davidson, D.S.O., Senior Naval Officer.

**FREE DISCHARGES.**—The Admiralty notified on November 13th that in view of the reduced requirements of the post-war Fleet a reduction was necessary in the personnel of the Navy and Marines, which would be effected partly by authorizing a limited number of free discharges. The conditions relating thereto were circulated to the Fleet. Applications for free discharges were not approved in the following classes: writers, victualling, and sick berth ratings; electrical artificers; E.R.A.'s trained in hydraulics; ordnance artificers; armour ratings; and masters-at arms and regulating P.O.'s.

**NEW AIRCRAFT-CARRIER.**—In November the new aircraft-carrier "Eagle," which was launched by Mrs. Page, wife of the then American Ambassador, in August, 1918, was ordered to be taken from the Tyne to Portsmouth Dockyard in order to be completed for sea. Captain W. S. Nicholson, C.B., formerly commanding the "Furious," the aircraft-carrier in the Atlantic Fleet, has been selected to command the "Eagle." Up to September 30th, the latest date for which figures are available, the total expenditure incurred on the construction of the "Eagle" was £2,199,358, including £1,334,358 paid to the Chilean Government in respect of work done for them before the vessel, which was originally to be the battleship "Almirante Cochrane," was taken over by the Admiralty. The "Furious," flying ship, was reduced to Reserve complement at Rosyth on November 21st.

**NEW TORPEDO-PLANES.**—It was announced in November that trials had been carried out successfully with a new type of torpedo-plane, a development of that first employed by the British Navy in operations against the Turks in the Sea of Marmora in 1915. These planes each carry two 15-in. torpedoes. Asked on November 18th, whether it was proposed by the Air Ministry to encourage the development of flying-boats as distinct from seaplanes, Captain Guest, who replied for the Government, said that the reply was in the affirmative. Three different types of experimental boat seaplanes were on order, and one of the prizes in the British Aircraft Competition for 1920 was for a boat or float seaplane.

**UNIFORM CHANGES.**—In November it was announced that full dress need not be provided until further orders, except by officers attending the King's Levees at home. On all other occasions of ceremony for which full dress was prescribed frock coat with epaulettes will be worn. The undress tail-coat is no longer a compulsory article of uniform, the mess jacket with epaulettes being worn instead. Other alterations in detail have been made with a view of simplifying the uniform and reducing the cost involved in changes of rank. Officers are required to provide themselves with all types of uniform, as now approved, by May 1st, 1920.

**NAVAL PHOTOGRAPHIC BRANCH.**—In November the Admiralty decided to establish a photographic branch in the Navy. Candidates for this must have had previous experience in photography and not hold a higher non-substantive rank than gun-layer, second class. Men who have been employed in Fleet photographic work and are recommended for the new branch, if selected and not already seamen or marines, will be allowed to transfer to the rank of private, R.M.L.I. Photographers, first class, will receive 1s. and photographers, second class, 6d. per day specialist pay. Six photographers were to be selected immediately and drafted to the Atlantic Fleet.

**ROYAL MARINES' AMALGAMATION.**—On November 22nd the Admiralty notified that in view of possible changes resulting from the proposed amalgamation of the R.M.A. and R.M.L.I., officers of the Royal Marines should not take any

steps to provide or renew any articles of uniform other than blue service dress until further instructions were issued. Khaki service dress, it was added, might continue to be worn at headquarters.

**NEW TURRET DRILL-SHIPS.**—In November the light battle-cruisers "Courageous" and "Glorious" were selected as turret drill-ships at Portsmouth and Devonport respectively in place of the battleships "St. Vincent" and "Collingwood"; and the battleship "Agincourt" was selected for similar duty at the Nore, in place of the "Superb." All three of the new drill-ships were formerly in reserve at Rosyth.

**PEACE WITH BULGARIA.**—On November 27th the peace treaty with Bulgaria was signed. The Admiralty advised the Fleet and naval establishments that the legal position with regard to the armistice and peace treaty was similar to that between this country and Germany, viz., that armistice conditions remained in force until the treaty was ratified.

**"BLAKE" AT HARWICH.**—On December 1st the destroyer depôt-ship "Blake," formerly a protected cruiser, was allocated for duty as depôt-ship at Harwich in place of the "Ganges II." The "Blake," launched in 1889, was one of the oldest ships in the seagoing fleet during the war.

**PRINCE OF WALES' RETURN.**—On December 1st the battle cruiser "Renown," Captain E. A. Taylor, returned to Portsmouth with the Prince of Wales, and on being berthed at the South Railway Jetty, Prince Albert, who had travelled to Portsmouth overnight, went on board to welcome his brother. Before going ashore, the Prince of Wales made a farewell speech to the officers and crew of the "Renown," whom he congratulated on the excellence of their ship, and said it gave him the greatest pleasure to know they had left a splendid reputation at the ports they had visited. Captain Taylor, in reply, said that the "Renown" had steamed 18,300 miles, had been forty-nine days at sea and seventy in port. On landing the Prince received a civic reception from the Mayor and Corporation of Portsmouth.

**THE GERMAN FLEET AT SCAPA.**—On December 3rd new light was thrown on the scuttling of the German Fleet at Scapa, on June 21st, by an Admiralty statement giving the text of a "most secret" letter sent in May by Admiral von Trotha, Chief of the German Admiralty, to Admiral von Reuter, the Commander-in-Chief of the interned ships, and the text of von Reuter's letter to the German commanding officers giving detailed instructions for preparatory measures for the sinking, and explaining how the signal would be given. The letter from Admiral von Trotha was salvaged from the "Emden," von Reuter's flagship, early in July.

**WAR STAFF OFFICERS' REPORTS.**—On December 3rd the Admiralty ordered that whenever a flag officer or commodore hauls down his flag, or when a War Staff Officer is removed, a special report as to zeal and aptitude shown in carrying out his duties as a War Staff Officer is to be made by the Chief of the Staff, or Chief Staff Officer, or the War Staff Officer concerned. Particular attention is to be paid in the report as to his capacity for drafting instruction and forming an appreciation of situations, together with any general remarks considered desirable.

**"ENCOUNTER" FOR AUSTRALIA.**—On December 5th it was approved to transfer H.M.S. "Encounter" as a free gift to the Australian Commonwealth Government for use as a general receiving ship at Sydney. Her armament and stores was ordered to be landed and taken on "Imperial" charge by the Naval Ordnance

Officer at Sydney, otherwise the vessel was transferred without alteration. She had been lent to Australia since 1912.

**COMMONWEALTH NAVAL BOARD.**—On December 7th Captain C. T. Hardy, R.N., was appointed for duty with the Royal Australian Navy as Second Naval Member of the Commonwealth Navy Board. This vacancy was notified early in November, when the Admiralty invited applications. The salary is £1,400 per annum consolidated, and the period three years, including the time travelling both ways. Free passage to Australia, and return, is provided for the wife and family of the officer appointed. Candidates were required to possess Admiralty experience in addition to recent sea service.

**THE "RIVER CLYDE."**—It was reported early in December that the "River Clyde," famous for her share in the Gallipoli landing, was to be sold at Malta, the expense necessary to bring her home to England being too great, £20,000 being required for towage alone. In response to the suggestion of Members of Parliament that there was considerable sentiment attaching to the vessel, the Prime Minister promised that the alternative plan of preserving her at Malta should be considered.

**OFFICERS AND TRADE UNIONS.**—On December 10th it was stated in an Admiralty order that the National Union of Scientific Workers, which is registered under the Trade Union Acts, had inquired if the Admiralty had any objection to naval officers becoming members of the union. The civilian members of the unions are all educated men of University training engaged on scientific work, and it was desired that naval officers similarly employed at the Admiralty and elsewhere might join. The Admiralty replied regretting that membership of this trade union appears to them incompatible with the requirements of naval discipline.

**WAR AND VICTORY MEDALS.**—On December 10th there were notified to the Fleet the conditions of the award of the British War and Victory Medals approved by the King. The first-named will be in silver, and the riband will be orange (watered) in the centre with stripes of white and black on each side and with borders of royal blue. The latter will be in bronze and attached to the riband by a ring; no clasp will be issued with it. The riband will be red in the centre, with green and violet on each side shaded to form the colours of two rainbows.

**COURSE FOR SECRETARIES.**—On December 10th it was announced that a course of instruction for officers of the accountant branch who wish to qualify for secretary would be instituted next January at the old War College, Portsmouth. Officers who qualify therein will receive preference in recommendations for appointments in that capacity. The course will last about three months. The Order further stated that it was desirable that junior officers who are now serving as secretaries and wish to be considered for further employment as such, shall, as opportunity offers, undergo this course, which is also open to senior officers who have already served as secretaries.

**NAVY NOMENCLATURE.**—On December 13th the following nomenclature was ordered to be adopted for the complements of ships and vessels:—(1) Full complement, for ships fully manned; (2) Reduced complement, for ships not fully manned, but seagoing (i.e., the late Home Fleet); (3) Special complement, for ships with special complements employed on special duties; (4) Reserve complement, for ships in reserve commission; (5) Care and maintenance party, for ships awaiting disposal, etc.

**"HOOD" COMPLETED.**—On December 17th the appointment was announced of Captain W. Tomkinson, C.B., Flag-Captain to Sir Roger Keyes, to the new

battle-cruiser "Hood," signifying that this vessel would become flagship of the Battle-Cruiser Squadron in place of the "Lion." The details of the "Hood," revealed in November, showed that she is of 41,200 tons displacement; 860 feet long; has engines of 144,000 horse-power, giving a full speed of 31 knots; has armour equal to any previous battleship, with a maximum thickness of 12 inches; and carries eight 15-inch and twelve 5.5-inch guns, with four 4-inch anti-aircraft guns. The ship left her builder's yard on the Clyde on January 9th, 1920, for Rosyth, to carry out her official trials.

"ENTERPRISE" LAUNCHED.—The light cruiser "Enterprise" was launched at the works of Messrs. John Brown & Co., Clydebank, on December 23rd. Ordered in March, 1918, and laid down three months later, this vessel was one of three light cruisers intended to be of an intermediate type between the "D" class and the "Raleigh." Her displacement was to be 7,500 tons and speed 33 knots, with an armament of seven 6-inch guns. It is uncertain whether the class—or how many of them—is to be completed. The "Enterprise" was launched by Lady Maclay, wife of the Shipping Controller. The two other ships of the class were to be called the "Emerald" and "Euphrates."

RECORD SPEED TRIAL.—On trial in December, the destroyer "Tyrian," built by Messrs. Yarrow, was reported to have achieved a world's record. She made a speed of forty-five land miles, or nearly forty knots. The previous record was made earlier in 1919 by the "Turquoise," also built by Messrs. Yarrow. The "Tyrian" is 273 feet long and has a fully loaded displacement of 1,060 tons. Her speed was achieved on an Admiralty four-hours' official trial in deep water. The builders are of opinion that had the vessel been run in shallow water a considerably higher speed would have been obtained.

## FOREIGN NAVIES.

### FRANCE.

NEW SHIPS.—At the end of December the French Minister of Marine was authorized to deposit bills in the Chamber providing for:—(1) The construction of five battleships of the "Normandie" class; and (2) the placing on the stocks in 1920 of the six scout cruisers provided for by the law of March 30th, 1912, and also twelve scout-destroyers. The "Normandie" class, as originally designed before the war, had a displacement of 24,830 tons, a speed of 21 knots, and carried twelve 13.4-inch guns. The new light cruisers are reported to be between 4,000 and 5,000 tons; and the new fast destroyer-leaders of about 2,000 tons.

MOROCCAN DIVISION ABOLISHED.—With the new year, the French Naval Division in Moroccan waters ceased to exist as a separate unit. Its functions were absorbed by the West African Division, the active zone of which now extends from the Straits of Gibraltar to Cape Lopez. The flagship of this division is the "Du Chayla," light cruiser, of 3,890 tons, which was launched at Cherbourg in 1895. A naval commander in Senegal and another in Morocco will assist the Senior Officer of the division.

### GERMANY.

ADMIRAL MEURER RESIGNS.—In a New Year Order of the Day, Admiral Meurer, Commanding the Baltic Naval Station, reflected upon the Government's authority and policy; praising the scuttling of the German ships at Scapa and exhorting those under his command to take the men responsible for it as a pattern.

As a result of this indiscretion, Admiral Meurer resigned his command, and his resignation was accepted.

**REVAL SHIPBUILDING WORKS.**—On October 2nd the special correspondent of *The Times* at Helsingfors telegraphed to that journal that "It is reported that a proposal is afoot to acquire control of the Baltic Shipbuilding Works at Reval through a third party in the interests of Germany, giving the Germans a still more predominant position in naval construction in the Baltic."

### JAPAN.

**NAVY ESTIMATES.**—On December 30th there were published the details of the expenditure proposed on national defence in the new Japanese Budget, for the financial year 1920-21. The increased expenditure for national defence amounts to Yen 99,000,000, the ordinary and the extraordinary put together. According to the new programme, the extraordinary expenditure, amounting to Yen 486,000,000, is to be voted for the Army, but to be spread over fourteen years (1920-1933). For the Navy, the extraordinary expenditure amounts to Yen 863,000,000, to be spread over eight years (1920-1927), and out of this total the approximate amount of Yen 160,000,000 (ordinary and extraordinary put together) is to be granted annually in the year 1921 and after.

**MISHAPS.**—On October 25th the Japanese naval manoeuvres, which were witnessed by the Emperor from the battleship "Settsu," were marred by two serious mishaps. In the battleship "Hyuga," in Tokio Bay, an explosion occurred, as a result of which a gun turret was blown into the sea, the gun's crew of fourteen being killed and about thirty injured. Earlier in the day the destroyer "Hamakaze" was swept by a great wave, which fatally injured her captain, Kawita, and also killed Commander Gasao, commanding the First Destroyer Flotilla.

### UNITED STATES.

**SECRETARY'S REPORT.**—Under date December 1st the Annual Report of the Secretary of the United States Navy, Mr. J. Daniels, shows that the Navy "emerged from the war incomparably stronger and more powerful than ever before—second only to that of Great Britain and far in advance of any other foreign navy, in ships, in men, and every element of strength. The organization of the Fleet in two great divisions gives us ample defence in the Pacific as well as the Atlantic. With battleships in service equal to or superior to any now in commission, six huge battle-cruisers and twelve battleships under construction, a number of them larger than any now in commission, to be armed with 16-inch guns, more powerful than any now afloat, the Navy is pressing forward to greater things, justifying, in peace as in war, the country's firm confidence in its 'first line of defence.'" Though demobilization had affected over 400,000 men, there were now in the Navy, said Mr. Daniels, more than twice as many enlisted men as there were on January 1st, 1917. The Report also included the considered judgment of the Navy Board in favour of continuing the building of battleships and battle-cruisers, after hearing the views of the commission which visited Europe last summer and saw the German ships at Scapa and the British battle-cruiser "Hood."

## MILITARY NOTES.

OCTOBER—DECEMBER, 1919.

### UNITED KINGDOM.

*Peace Treaty.*—On October 11th His Majesty the King signed the Treaty of Peace with Germany.

*Armies of Occupation.*—On November 15th, 3,500 officers, 50,000 men were engaged in France on reclamation, salvage, etc.

On November 19th the War Secretary announced the following proposed temporary distribution of battalions. Danzig: 2 British, 1 American, 1 French. Allenstein: 3 British, 1 American. Marienwerden: 1 British, 1 Italian. Upper Silesia: 3 British, 4 French, 6 American, 3 Italian. Slesvig: 1 British, 1 American, 1 French.

On November 25th, that they would probably be required at these places for 12-20 months. All conscript troops would be relieved by volunteers in time for despatch home as per A.O. 365 of October.

On December 1st the strength was:—

	British.	Indian.	Total.
Rhine ... ..	42,589	1,226	43,815
France and Flanders ...	48,000	7,090	55,090
Black Sea ... ..	13,011	14,131	27,142
Italy ... ..	3,075	Nil	3,075
Egypt ... ..	44,653	53,283	97,936
Mesopotamia ... ..	16,935	72,816	89,751
India ... ..	57,999	Not stated	57,999
Colonies and Garrisons ...	8,916	1,347	9,263
Aden ... ..	Nil	4,569	4,569
Home ... ..	250,000	Nil	250,000
	<u>*485,468</u>	<u>154,462</u>	<u>539,930</u>

\*Of the British troops 186,484 were awaiting demobilization, 71,137 would be time-expired by April.

On December 15th, 23 battalions were warned for service abroad in January. For Egypt 5, the Rhine 7, plebiscite army 11.

*Royal Air Force.*—On October 8th regulations for the Cadets' College were issued. Cadets were to receive 5s. daily during their first year, and 10s. during the second.

On October 31st a Selection Board was formed to assist the Air Council on matters of promotion.

On November 11th Major-General Sir J. Seely resigned office as Under Air Secretary. On December 22nd Major G. C. Tryon was appointed.

On December 12th the Air Estimates for 1919-20 were published. They amounted to £54,030,850, £12,469,150 less than anticipated last month. The maximum strength of the R.A.F. at home and abroad, excluding India, was 150,000, to be reduced by March 31st, 1920, to 35,000. Estimated expenditure, after deducting expropriations in aid, was:—Pay, etc., £21,051,000. Quartering

stores, etc., £6,103,000. Technical stores, £19,322,850. Works, etc., £6,402,000. Air Ministry, £692,000. Miscellaneous, £203,000. Half pay, pensions, etc., £257,000. The items under Pay were:—Officers, £4,600,000. Men, £6,400,000. Separation allowance, £2,250,000. W.R.A.F., £900,000. Civil employees, £1,601,000. Discharge gratuities, £5,100,000. Reserve, £30,000. Recruiting staff, etc., £120,000.

On December 13th was issued a scheme by the Chief of the Air Staff for the permanent organization of the R.A.F. It had in principle received the approval of the Cabinet. It recommended:—An Independent Force, with personnel for research, etc., and specially trained units for work with the Navy and Army. Preservation of the squadrons which made names for themselves during the war. Distribution: India 8 squadrons. Mesopotamia 3. Egypt 7. Malta and Alexandria, seaplane units. Home 4 squadrons. For the Army, 1 flight per division; 1 or more squadrons with artillery. For the Navy: 3 aeroplane, 2 seaplane squadrons. Formation of a Reserve on a territorial basis. Commissions mainly through Cadet College. Gunnery and other schools, a Staff College. Lads to undergo 3 years' training before passing into ranks. It was noted that, owing to the comparative paucity of higher appointments, only 50 per cent. of officers would be granted permanent commissions, the remainder being obtained in part by seconding Army and Navy officers. Great importance attached to these. An appendix gave present strength of the R.A.F. and its proposed increase up to 1923. The scheme assumed that no general mobilization would be needed for some years.

On December 15th the Estimates were passed. The War Secretary said:—The number of seconded Navy and Army officers employed would be 10 per cent. Certain subsidiary services would be open to Army officers. A combined Imperial War Staff for the three services was aimed at, actuating and operating under a single control.

On December 23rd the Cape to Cairo air route was declared open.

*Territorial Force.*—On November 4th the War Secretary said:—Financial difficulties had delayed the reconstitution of the Force. It was hoped to begin it at the end of November.

On December 15th:—It had been decided to reconstitute the Force broadly as it was before the war. The decisions were far advanced, and recruiting would be shortly opened. With regard to the position of supernumerary Generals, the war services of officers now in command was the main factor to be considered.

*Estimates.*—On December 9th Army Estimates for 1919-20 were published. They amounted to £405,000,000, and covered 2,600,000 men: the increase of 100,000 on those already voted for being due to delay in demobilization which disappeared in April. The establishment on March 31st, 1920, was expected to be 300,000 British, 100,000 Indian troops (outside India), some of them in process of demobilization. Post-war establishment of British troops in India was not yet settled.

Net expenditure was:—Maintenance of standing Army, £268,534,000. Territorials, Reserves, Volunteers, £1,349,000. Education, hospitals, depôts, £24,420,000. War Office, Home and Colonial Staff, £6,909,000. Capital accounts, £3,650,000. Miscellaneous, £114,493,000. Half and retired pay, pensions, civil superannuation, £5,378,000. Total, £424,733,000, reduced by decrease of amounts due, etc., to £405,000,000.

Under Standing Army was included (a) Armies of Occupation: the Rhine, France, Belgium, £76,600,000. Italy, £2,038,000. Bulgaria, Turkey, Caucasus, etc., £9,850,000. Egypt, Palestine, £31,240,000. Mesopotamia, Persia, £32,890,000. Total, £152,618,000. (b) Home, Colonial, Russia, £120,889,000.

Under Territorials, etc., was included:—Army Reserve, £345,000. Special Reserve, £20,000. O.T.C., £55,000. T.F. and Volunteers, £873,460. Channel Islands and Colonial Militia, £55,400.

Medals were estimated to cost £1,750,000.

On December 15th the Vote was passed. The War Secretary said:—In presenting (in February or March next) the Estimates for 1920-21, he would unfold in full detail the scheme, now very far advanced, for a permanent post-war Army.

**Reductions.**—On October 22nd the following reductions were announced:—

**Army.**—July 31st, strength, 1,216,000, including 83,000 demobilized men on furlough. October 15th, strength 907,000, including 150,000 demobilized men on furlough: under arms, 757,000. But for delay caused by railway strike, another 140,000 men would have been demobilized. 55,000 of all ranks were in Ireland at a weekly cost of £200,000. Total expenses next year would be less than one-fifth of present gross cost.

**War Office clerical staff.**—March 31st, 16,359 (14,222 civilian, 2,137 military). April 1st—October 1st, net reduction, 4,861: total since Armistice, 7,340. Reduction to about 8,000 proposed by January 1st, 1920.

**Royal Air Force.**—November 11th, 1918, 30,122 officers, 263,410 men. August 12th, 1919, 9,044 officers, 59,671 men. October 18th, 6,005 officers, 51,976 men.

**R.A.F. clerical staff.**—November 11th, 1918, 63,150. September 30th, 1919, 24,700. Reduction proceeding.

**Munitions. Clerical staff.**—H.Q. March 31st, 15,920. October 22nd, 10,236. Reduction, 5,684. Total reduction since Armistice, 14,908, or 60 per cent. H.Q. and provinces, now 20,042: reduction since Armistice, 44,900, or 68 per cent.

**W.R.A.F.**—September 30th, 164 officers, 5,800 other ranks. Reduction proposed to 400 by December 1st, 200 by January 1st, 1920.

On October 29th the War Secretary said:—80,000 men now on the Rhine would be reduced to 45,000 by November 15th, and "then almost immediately" to 30,000. These would comprise (a) Cologne garrison 14,000, (b) a plebiscitary division 16,000 available for disputed areas in Germany and Poland, and probably required for over 6 months. In France, Flanders, and Germany, the ration strength of British troops, prisoners, Chinese, etc., would be reduced to 300,000 by November 15th, to 90,000 by Christmas, and before March 31st, 1920, to the 30,000 above mentioned. The Army would be reduced to 500,000 by November 15th, to 330,000 by Christmas, and by March 31st, 1920, to 300,000 voluntarily enlisted men. 45,000 wounded men were now in hospital, being discharged as soon as they recovered.

On October 22nd about 2,900 officers, 48,000 men (including T.F.) awaited demobilization in India. 24,391 Regulars had been despatched, 20,159 were being so this month, 4,182 would follow in November. Total, 48,732.

During October there sailed home: from Egypt 9,812 all ranks, from India and Mesopotamia 21,697, from the Black Sea 10,670, from Russia 9,991. Total 143,752. From home: to India, 28,095, to Egypt 2,020.

By November 10th, 10 of 14 batteries T.F., 9 of 19 battalions T.F. in India had been relieved. The reliefs were completed by Christmas. Delay occurred in Mesopotamia.

During December troops were withdrawn from Italy and Syria.

#### Demobilization.—

	Demobilized.		Discharged.		Reserves.
	Officers.	Men.	Officers.	Men.	Men.
Oct 25th	126,974	3,066,355	22,337	190,043	143,603
Nov. 19th	138,396	3,255,835	22,967	200,282	143,603
Dec. 10th	141,348	3,293,354	23,211	204,090	143,603
Dec. 31st	144,144	3,332,682	23,476	207,600	143,603

*Disabled.*—By September 26th, as a result of the King's proclamation, 1,453 firms employing 172,031 men gave the necessary undertaking and were authorized to use the seal: applications from 2,637 firms were under consideration, as also from local employment committees. By November 11th, 2,500 vacancies in Government departments had been filled, 9,500 remained. By December 6th, 8,742 firms had joined, 1,068 were awaiting acceptance. 85,757 men had been employed, 1,068 vacancies to fill quotas remained.

From October 30th disabled officers were included in the national employment scheme.

On November 4th, before the Pensions Select Committee, Brigadier-General A. M. Asquith said:—The Appointments Branch had received 28,000 applications. 6,000 of these were withdrawn, 7,200 accepted, over 2,000 under consideration. 400 disabled officers had been approved for training. Of 41,900 others referred to Educational and Agricultural departments, 20,000 grants had been sanctioned. The average cost in the Appointments Branch was £124. Of 50 grants made this month, 28 had been applied for during September—October, 13 before August, the remainder "in between." Trade Unions were opposed to the scheme, but it was hoped their support would be gained. Meanwhile 2,877 officers, 4,354 men could not be trained.

On November 11th it was unofficially stated:—Of 70,000 applications, 28,000 had received grants, of 33,000 disabled officers, 400 were in training. On same date an Appeal to Employers by Field-Marshal Lord Haig stated:—90 per cent. of men demobilized during the past year had been absorbed. 20,000 applicants for employment were on the books of the Appointments Department, 300—400,000 on those of the Employment Department.

On December 22nd the Labour Minister said:—It is well known that the ballot of the Amalgamated Society of Engineers has turned down the proposition for the employment and training of disabled soldiers. I hope in process of time they will take a different attitude.

Up to November 14th, 1,905 officers had been temporarily placed in Government offices.

On November 24th, at a meeting at the Mansion House, the Labour Minister outlined a scheme for the assistance of demobilized officers. It proposed 80 panels of business men voluntarily devoting half a day weekly to interviewing applicants. It was hoped to deal weekly with 1,200—1,600 cases. Vacancies had been found for over 1,600, but 20,000 remained. 12,000 of these were in London. F.-M. Earl Haig said he hoped disabled officers would not be forgotten. He called attention to the delay in bringing forward a scheme for the revision of their pensions.

On December 3rd the panels began work.

By December 2nd 5,380 officers' applications had been received by the Agricultural Board, 1,928 granted. 20,000 men were awaiting industrial training.

By November 30th the Housing Association for Officers' Families had secured 94 flats in London, 8 were being prepared in London, 32 in the country, and 24 cottages near a University town. They were to be available at nominal rents for widows and disabled officers' families.

*Land Settlement.*—Up to October 31st there were 2,524 applications for small holdings in Scotland, 92 men were settled, it was hoped 200 more would be by Martinmas.

On November 18th an Irish Land (Provision for Sailors and Soldiers) Bill was read a second time. Its main provision was to give men who had served priority in any untenanted land at the disposal of the Estates Commissioners or Congested Districts Board. 1,700 applications had been received, 500 were anticipated for next year.

By November 25th, 25,305 applications had been received in England and Wales, 12,447 approved. 161,696 acres had been acquired. 72,000 were under consideration, 2,614 ex-service men in occupation of holdings.

The Overseas Settlement Committee received 5,000 applications by mid-November, mostly for Canada and Australia. On November 21st a first party of 150 men left for East Africa under the Government scheme allotting land.

*Pensions.*—On October 30th the Pensions Minister said: 957,000 disabled officers and men were in receipt of pensions, gratuities, or allowances at a monthly rate of £3,970,000, including allowances for 670,000 children of disabled men. £2,609,000 was being paid to widows, children, and dependants of deceased officers and men. Total expenditure on benefits was £8,321,000 monthly, on administration £343,000, or 4 per cent. of that on benefits. Staff employed (other than by Pensions Committees) was 17,815.

On November 3rd regional medical appeal boards were set up.

On December 7th supplementary Civil Service estimates were introduced. They included £32,044,000 for Pensions Ministry, or a total of £104,529,000. Among the items were £10,920,000 for men's pensions and gratuities, £10,000,000 for treatment of disabled, £5,628,000 (or a total of £19,121,000) for men's widows and children. Since the original estimates, the clerical staff had increased from 9,000 to 18,000.

On December 23rd the second report of the Select Pensions Committee was issued. It recommended:—Addition of 20 per cent. bonus to temporary officers' pensions. A new scale for Regular officers. New £50 allowance for wife, £60 per child. £150 for widow, £36 per child. Increased maintenance and education allowances. Widows' alternative pensions based on husband's pre-war income plus 60 per cent. as for other ranks. Men's dependants 20s. plus 33 per cent. on smaller amounts. Disabled pensions for former wars raised to present rates. Questions of treatment and training further considered next session.

*War Gratuities.*—By November 6th had been paid to over 300,000 dependants of all ranks. Cases of officers who died before June 30th, 1917, were in hand. By November 24th over 400,000 had been paid. The rate of issue was increasing, and had reached over 34,000 weekly. Cases of officers deceased before December 31st, 1917, were in hand.

*Unemployment Pay.*—On September 26th, 274,477 ex-service men were drawing unemployment pay. On November 18th the benefit was extended from November 28th to March 31st. During that period a maximum of 9 weeks' pay was sanctioned at 20s. per man, 15s. per woman.

*Russia.*—On October 12th the War Office issued an explanatory note of the withdrawal from North Russia. It stated:—Evacuation before the winter of 1919-20 was decided upon in March. In July, owing to mutinies in certain Russian units, Lord Rawlinson was sent to Russia with a free hand to co-ordinate retirement on the two fronts. At Archangel, the Dvina positions held were 200 miles from the base: at Murmansk, west of Lake Onega, 500 miles. Local operations having been carried out to cover the movement, the troops were transferred by river to Archangel, by rail to Murmansk, and embarked. The Russian forces were left in excellent positions.

On October 28th it was stated (a) 23 officers, 77 other ranks of R.N., Army, and R.A.F. were missing, presumably prisoners. Negotiations were proceeding; (b) 190 officers, 340 men were serving in Siberia, 356 officers, 1,002 men in South Russia, 46 officers, 54 men with the Baltic military mission, 22 officers, 29 men Royal Tank Corps as instructors. The last had been recalled.

On October 29th the War Secretary said:—(a) There was a great improvement in the position of the anti-Bolshevist forces. General Denikin had gained an

enormous territory including four or five of the greater cities, and taken over 270,000 prisoners since May. He had now 3-400,000 well-armed and organized men. In March there were 430,000 Bolsheviks, 320,000 anti-Bolsheviks: in September 460,000 Bolsheviks, 640,000 anti-Bolsheviks. (b) 2,000 British officers and men had voluntarily remained in Russia, and were employed in technical and organizing services. A brigade at Batum would be shortly withdrawn. (c) General Denikin had been notified his armies must be self-supporting after March 31st, 1920. There was no reason why they should not be. Meanwhile, a final contribution of £15,000,000 worth surplus stores had been approved.

On November 3rd a White Paper gave the cost of naval and military operations between November 11th, 1918—October 31st, 1919. (A). Operations: Murmansk, Archangel, £17,365,000. Caucasus (maintenance of Army, including sea transport, £410,000), £3,410,000. Naval operations in Baltic and Black Seas, £6,350,000. Total, £27,125,000. Headings of Expenses on the North Front were:—Air Force (including Indian troops) £7,650,000, sea transport £3,160,000, Provisional Government £1,350,000, food supplies for Russian troops £2,400,000, munitions, etc., for Russians £2,805,000. Total £17,365,000. In addition, non-marketable stores, etc., for Russian troops £5,770,000. (B). Assistance to Russian armies: Baltic States, including Russian corps, £1,070,000. Admiral Koltchak, £8,540,000. General Denikin, £7,775,000. Total, £17,385,000. This sum included £1,890,000 for expenses of British contingents, £1,270,000 sea transport, but excluded £29,550,000 for non-marketable stores. The entire cost was £79,830,000, £35,320,000 of it for non-marketable stores, etc. It was explained that of the £15,000,000 worth of munitions, etc., promised to General Denikin, £12,000,000 were for surplus non-marketable material involving no additional cost.

On November 12th casualties amongst British troops since the Armistice were returned as:—13 officers, 168 men killed or died: 50 officers, 455 men wounded: 19 officers, 171 men missing. In the Caucasus, 1 man killed, 1 missing.

On December 4th the railway section of the British Military Mission to South Russia consisted of 40 officers, 65 men.

*Enemy Prisoners.*—Repatriation was delayed by German failure to carry out peace terms. On December 19th, 1,373 German officers, 457 other ranks were in the United Kingdom.

*British Prisoners.*—On November 11th the Under-Secretary for War stated:—12 officers, 391 men were still untraced.

*Scots Greys.*—On November 25th the War Secretary said:—Owing to the temporary reduction of cavalry regiments in India, the despatch of the Scots Greys had been cancelled. It was under consideration to treat the regiment as a home service corps like the Household Cavalry, and to arrange the disposition of the cavalry so as to give satisfaction to national sentiment.

*Medals.*—On October 18th a clasp was sanctioned for service under fire in France or Belgium between August 5th and midnight November 23rd-24th, 1914. On November 18th an oakleaf to be worn on the ribbon, for mention in despatches, was stated to be contemplated. 70-80,000 would be affected.

*Dress.*—The report of the Dress and Uniform Committee convened on April 10th had not been published by December 31st. It was said to recommend the retention of review order, undress, service, and mess dress. For full and walking-out dress of infantry rank and file, a new tunic of light material, cut on the lines of officers' service dress jacket but with high collar. Undress: blue serge (frock and white jacket abolished). Service dress, new cap. In mess dress, for infantry, trousers, black socks, Oxford shoes. Four head dresses—R.E. and R.A. to revert to busby, infantry to shako. Sword. Highlanders: coatee, "proper sized belted plaid," etc. Special Reserve and Territorial Force to generally conform. In addition to small

economical alterations, a money grant to officers on joining, uniform supplied under Government organization, shops for that purpose established.

*Courts-Martial.*—On November 25th the report of the Committee on procedure was published. During 12 months ending September 30th, 1913, there were (excluding India) 3,690 courts-martial. During 12 months ending September 30th, 1918, 252,773. "We are satisfied, not only that members . . . intend to be absolutely fair . . . but that the rank and file have confidence in their fairness." The leading recommendations were:—Regimental courts-martial to be abolished. General to consist of a minimum of five members, over the age of 25. Findings of acquittal to be immediately announced. A Court of Appeal undesirable.

*Promotion from the Ranks.*—On December 9th a deputation from the National Democratic Party urged the War Secretary to assign to serving soldiers 20 per cent. of the commissions annually granted, set up regimental schools and military academies for the use of aspirants, allow officers promoted from the ranks to count full service for pension, give greater facilities. The War Secretary replied:—There were now 4,000 officers above establishment, 3,000 awaiting commissions, most of the latter had served in the ranks. The deputation might confidently expect reform.

*Dardanelles Report.*—The final report of the Dardanelles Commission, dated December 4th, 1917, was published November 18th, 1919. Its main "general conclusions" were:—Insufficient preparation for the expedition. Its difficulties much underestimated. Success was only possible by limitation of effort on the West front. Operations hampered throughout by lack of reinforcing drafts, material, etc., due to demands exceeding expectation and to calls from other fronts. Navy and Army worked well and harmoniously. The Director of Medical Services did his best under exceptional circumstances.

The High Commissioner for New Zealand added a supplementary report, making several criticisms, and regretting that for diplomatic reasons a full report of the evidence could not be given.

#### INDIA.

*Pay.*—On October 5th revised rates of monthly pay were issued, with effect from July 1st, for cavalry, artillery, and infantry officers of the British service in India, and for cavalry and infantry officers (including I.A.R.O.) of the Indian Army.

	British service(a).	Indian Army (b)	(a) plus command (350 Rs.) and Adjutant's allowances.
	Rs.	Rs.	
2nd Lieutenant ... ..	425	425	(b) plus.
" of 2 years' service ..	475		Cavalry. Squadron Officer, 150 Rs.
Lieutenant ... ..	475	475	Squadron Commander, 250 Rs.
" with 7 years' service	550	550	2nd in Command, 300 Rs.
Captain ... ..	750	700	Commandant, 700 Rs.
" with 9 years' service ...	750	750	Infantry Company Officer, 100 Rs.
" with 15 years' service...	850	—	Company Commander, 200 Rs.
Major ... ..	950	900	2nd in Command, 250 Rs.
" with 5 years' service as such	1,050	950	Commandant, 650 Rs.
Lieut.-Colonel ... ..	1,250	1,150	

The rates are subject to revision five years hence. Rates for other ranks are under revision.

On November 7th the Army Commission left for India.

On December 4th vacancies in the Indian infantry were offered to demobilized officers with war service. The terms were: engagement for one year: age limit 30, or 35 for officers with Indian experience: no outfit allowance: free passage out and home: £25 bonus on joining: no passage for wife or family: gratuity of one month's pay and allowances on completion of engagement.

On December 23rd vacancies were offered in the Indian Medical Service. The terms were: two years' engagement: age limit 35: free passages: Rs.700 monthly pay to Lieutenant, Rs.750 to Captain: passage out (if procurable) for family.

On December 15th a Selection Board was formed under C-in-C. for appointments above rank of Lieut.-Colonel.

Frontier fighting continued in Waziristan. On December 21st a column was repulsed 4 miles from Jandola. The objective was captured next day. There were 800 casualties, including 26 British officers killed and wounded. Later, part of the Mahsuds surrendered.

*Afghanistan*.—During October, an Afghan mission arrived at Moscow. In December, Bolshevik troops were at Bokhara.

*Mesopotamia*.—Local troubles were suppressed in November at Akra (50 miles N.E. of Mosul), and in December at Deir-er-Zor (on the Euphrates, 100 miles E. of Aleppo).

On December 30th the report of the Committee on expenditure was published. It recommended the refundment of £2,000,000 by the Civil Administration to the military authorities.

The Basra—Bagdad railway was opened at Christmas.

#### CZECHO-SLOVAKIA.

During October it was decided, pending the formation of a militia, to maintain conscription, plus reserves, with a peace effective of 112,350 men. The French military mission suggested two years' service, producing 7,193 officers, 2,800 N.C.O.'s; 14 months was favoured, producing 9,000 officers, 7,600 N.C.O.'s at a less cost. A proposal for 6-7 months was rejected.

#### FRANCE.

On October 21st, 600 applications had been received from foreign officers to attend military schools.

*Army Organization*.—On October 23rd G.H.Q. was dissolved.

On October 28th an anticipation appeared of a scheme drawn up by G.H.Q. It recommended:—Number of divisions dependent on events. Framework of army 100,000 men, plus 150,000 volunteers or re-enlisted: remainder conscripted for one year. Cadres from one training school: other schools for practice and completion of studies. Training of reserves shorter, more frequent, more intensive. Reserve officers compulsory from certain classes. The term of service was later stated to be two years: on April 1st, 1920, 1918 class to be released, 1920 class called up.

After January 1st, 1920, air squadrons were to be formed into regiments, 7 observation, 3 chasing, 3 bombing; 1 regiment to be maintained in Algeria, another in Morocco.

#### GERMANY.

*Army Strength*.—On October 1st seven defence districts per sanctioned infantry divisions were fixed at Königsberg, Stettin, Berlin, Dresden, Stuttgart, Munster (Westphalia), Munich.

On October 11th the Chancellor said the Army numbered 400,000 men. 1,200,000 Citizen Guards were "not armed to the extent that every man had a weapon at his disposal, but that their arms were in safe keeping."

On October 28th estimates dated October 1st were presented budgeting for 6,885 combatant, 749 medical, 342 veterinary, 24 "pyrotechnic" officers, 29,056 N.C.O.'s, 162,944 men: total 200,000. Total officials, 2,386.

On October 29th the Chancellor said reduction of the Army was proceeding slower than estimated as peace was not yet ratified.

On December 1st Marshal Foch presented to the Supreme Council at Paris detailed estimates of the armed forces available in Germany. They amounted to 1,200,000 men.

On December 9th the War Secretary stated:—I have received no information to show that efforts are being made in Germany to reorganize the Army for offensive purposes. On the contrary, all the evidence goes to show that the Regular Army is being reduced in accordance with the peace terms, although strictly these were, of course, only to take effect after the ratification. The Regular Army or defence force was at its maximum in August, 1919, when it was estimated at approximately 500,000 men. Its present strength is estimated at 390,000 men. Under Article 163 of the Peace Treaty these troops are to be reduced to 200,000. In addition, there are under the Ministry of the Interior the reserve formations, civic guards, and armed constabulary. Of these only the last named are mobile and of immediate value as a fighting force. The strength of the constabulary is estimated at about 70,000 men, and they are distributed in the larger towns. The reserve formations and civic guards are civilians who have agreed to serve in case of serious local disturbances, and the former would act as reserves to the defence force. Neither are in uniform or armed, their rifles being kept in depôts. I understand that the Peace Conference is at present considering the attitude to be adopted regarding these organizations.

On December 31st the following statement of strength, organization, etc., of the German Army was published:—

Reichswehr (Regular Army (a)), 400,000. Land forces of the Reichsmarine (Royal Navy (b)), 12,000. Zeitfreiwilligen (Emergency Volunteers (c)), 150-200,000. Einwohnerwehr (Civic Guards (d)), 300-400,000. Sicherheitspolizei (Public Safety Police (e)), 40-50,000. Total 1,062,000.

(a) (b) are under the Federal Ministry of Defence. (a) includes troops lately returned from the Baltic States, demobilization depôts, etc. In August it numbered 500,000, organized in 43 brigades of varying strength. The numbers are being reduced. (b) comprises 3 marine brigades, each 3,000 strong, at Hamburg, Berlin, and in Upper Silesia. Each brigade has 4 battalions, an "assault detachment," 3 field batteries, technical troops. A Coastguard regiment is quartered at the North Sea ports.

(c) (d) (e) are under the Federal Ministry of the Interior, plus Technische Nothilfe (Technical Emergency Volunteers), local police formations (Frontier Protection Police, Harbour, Water, and Railway Guards), Gendarmerie, Civil Police. The whole are being grouped in a uniform organization. (c) is mainly recruited from officers and men of the old Army. It is well supplied with technical equipment. (d) is a reserve for (a). The estimate of numbers for (c) (d) "cannot be considered of any real value."

"The organizations (c) (d) (e) are undoubtedly a contravention of the terms of the Treaty (as soon as it comes into force), and this fact has been notified to the German Government by the Supreme Council."

*Aviation.*—During October, French criticism alleged an elaborate and efficient system of commercial air transport was being organized, capable of being quickly used for military purposes. The following grounds were given: (a) Establishment or projection of a network of routes radiating from Berlin. (b) 20,000 aeroplanes now built. (c) Airmen's union formed.

The War Guilt Commission commenced its sittings on October 15th.

## RUSSIA.

*October.*—Bolshevist peace proposals were rejected by the Baltic States. The Finns declined to help General Judenitch. The Letts had 20,000 badly equipped men round Riga. The Esthonians co-operated with them, and on General Judenitch's left. General von der Goltz was replaced by General von Eberhardt. The German attitude remained obstructive. 34,000 German troops were reported in Courland, plus 13,000 (partly Bavarian) under Colonel Bermond. The latter used poisonous gas. On October 30th the German Government announced soldiers absent from Germany after November 1st would be regarded as deserters. Since August the Bolsheviks were estimated to have sent 300,000 men, 800 guns, to the south front; 80,000 of them with 200 guns during October. Strong reinforcements were also brought to Petrograd.

*November.*—On the north-west front, Colonel Bermond's troops, after their failure at Riga, were taken under the protection of General von Eberhardt. On November 30th the Allied Military Commission reported that all German troops were falling back to the positions assigned them: it was hoped that the Baltic provinces would be cleared by December 13th; 50,000 were stated to be in the Niemen area. The Letts and Lithuanians concluded a military convention. General Judenitch handed over command to an Esthonian officer. He had taken 13,000 prisoners; the Bolshevik casualties were placed at 47,000. All material, etc., was saved. His troops were being reorganized.

20,000 Galicians from General Petlura's forces joined General Denikin. By his junction with the Poles, a united anti-Bolshevist front was formed from the Baltic to the Caspian.

*December.*—On the north front, the situation remained stable. On the north-west front, an Esthonian-Bolshevist armistice was concluded on the 30th. The German troops evacuated the Baltic provinces, Colonel Bermond's abandoning 40 guns, etc., to the Letts. The German troops were granted pay, etc., until demobilization by the German Government on their recrossing their frontier. An alliance between the anti-Bolshevist States was under discussion. The Poles held a 500 miles front. On the south front, the Bolsheviks were reported reinforced by 31 divisions infantry, 7 cavalry, and 20 artillery brigades. Their main offensive was on General Denikin's centre, with the object of cutting his armies in half. It was nearly realized by the end of the month. On the east front, the Bolshevik advance continued, and they neared the Chinese frontier. General Denikin and Admiral Koltchak were hampered by political unrest, and the latter by the withdrawal of the 45,000 Czecho-Slovaks hitherto guarding the railway. The Japanese were on the Angara River, Irkutsk, prepared to resist any Bolshevik push further east. Bolshevik activity in Trans-Caspia was noticeable.

A British-Bolshevist conference at Copenhagen for the release of prisoners had arrived at no result by December 31st.

*Operations in October.*—North front.—5th, Plessetskaja captured, 5 guns. 12th, British evacuated Murmansk. 14th, 32-mile advance S.E. of Onega, progress at Seletskaja. 28th, reached 100 miles S. of Onega.

North-west (Baltic) front.—10th, Colonel Bermond's Russo-German troops attacked Riga. 11th, General Judenitch with N.W. Russian force attacked on 75-mile front S.E. of Gdov—N. of Narva Gatchina railway. 12th, captured Volossova, 14th Kikerina. 16th, Letts captured Duenamunde, Ust Dvinsk. 17th, Judenitch captured Krasnoe Selo. 18th, Bermond repulsed at Ust Dvinsk, Friederichstadt. 22nd, Judenitch captured Paulovsk. 26th, lost Krasnoe Selo, retired on line 10 miles N.—S.E. of Gatchina. 31st, recaptured Kapsha (10 miles S. of Peterhof).

West front.—10th, General Denikin captured Tchernigoff (90 miles N.E. of Kieff). 14th, Poles captured Kovno. 15th, Bolsheviks re-entered Kieff: 17th, expelled.

South front.—General Denikin's advance continued. 3rd, captured Veronezh, 15,300 prisoners, 37 guns: Dmitreff (E. and N.W. of Kursk). 11th—13th, repulsed attack on Tsaritsin. 13th, captured Orel (168 miles N.W. of Veronezh), 5,600 prisoners. Heavy fighting. 19th, Orel, 22nd Veronezh temporarily lost. Advance resumed. 20th, captured Dubovka (N. of Tsaritsin); 23rd, Yelets (230 miles S.E. of Moscow). 30th, reoccupied Dmitreff. October 17th—22nd, 55,000 prisoners, 52 guns, etc.

East front.—4th, Admiral Koltchak reoccupied Tobolsk. 10th, 33,000 Bolsheviks surrendered in E. Turkestan. 23rd, Tobolsk lost: 30th, Petropavlovsk (170 miles from Omsk).

Trans-Caspia.—16th, Bolsheviks captured Kizil Arvat.

*Operations in November.*—North front.—Progress on Pinega and Mezen fronts.

North-west (Baltic) front.—2nd, Colonel Bermond repulsed at Riga—Friedrichstadt: 10th, retreated in disorder. 3rd, General Judenitch evacuated Gatchina, Luga: 15th, fell back on base. Offensive abandoned. 21st, Letts captured Mittau, German evacuation of Lithuania and Courland commenced. By 30th Estonians repulsed Bolsheviks on Narva front.

West front.—12th Poles occupied Novgorod Volhynsk: 18th, Kamanets Podolsk: 25th, linked up with General Denikin near Proskuroff (80 miles N. of Kamanets). Denikin occupied Berdisheff (W. Ukraine): 28th, Fastoff.

South front.—1st, General Denikin captured Bobroff, evacuated Kramo. 7th, successful offensive E. of the Volga: pressed back Veronezh—Kursk—Lgoff. 18th, evacuated Kursk. 25th Bolshevik offensive on Tsaritsin: repulsed E. of the Volga. Centre, now 50 miles S. of Veronezh—30 S.E. of Kursk. 28th, Bolsheviks repulsed at Tsaritsin, captured Nikolskoe (40 miles E.S.E. of Kursk).

East front.—3rd—10th, 3rd army pressed back on the Ishim. General retirement on 220-miles front Petropavlovsk—the Irtish. 14th, Omsk evacuated. 30th, Bolsheviks 130 miles E.

Trans-Caspia.—13th, Bolsheviks occupied Kamanjak (160 miles E. of Krasnovodsk). 25th, reinforced at Askabad, Kizil Arvat. By 30th, driven out of Kizil Arvat, pursued 250 miles W. of Merv.

*Operations in December.*—North front.—6th—10th, attacks on railway repulsed.

North-west (Baltic) front.—Intermittent fighting, Narva.

West front.—4th, General Denikin pressed back at Koseletz (26 miles N. of Kieff). 9th, evacuated Berdisheff: 12th, Kieff.

South front.—4th, General Denikin pressed back at Pavlovsk (80 miles S. of Veronezh), Kharkhoff. 5th, repulsed Bolsheviks N. of Tsaritsin. 11th, evacuated Kharkhoff: 12th, Poltava. By 31st the Bolsheviks occupied Kalinovka (Kieff—Lemberg railway), Tcherkasy, Kremenchug, Ekaterinoslav, Ilvovskaya and Likhaye junctions.

East front.—14th, Bolsheviks occupied Novo Nikolaievsk (400 miles E. of Omsk): advanced up the Irtish on Sangari (Chinese frontier).

Trans-Caspia.—9th, Bolsheviks occupied Kazandzik (on railway, 147 miles from Krasnovodsk): 28th, Krasnovodsk.

## SPECIAL RESERVE.

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A well-attended meeting of Officers, active and retired, of the Special Reserve and Militia was held at the Royal United Service Institution on January 15th, 1920, when a resolution against the proposed disbandment of the Special Reserve was passed.

In the absence of Colonel Lord Raglan, Royal Monmouth R.E., through illness, on the proposal of Brigadier-General Massy-Lloyd (Chairman of the Militia and Special Reserve Club), Lieut.-Colonel Sir Arthur Leatham, C.M.G., was unanimously asked to preside.

Lord Raglan, writing to the Chairman, said: "I am in full agreement with the proposed resolution. I have always considered that the Militia was the foundation of our whole military system, and that if it is abolished nothing can replace it, and that, call it by what name you may, its existence is essential to the Empire."

The Honorary Secretary (Major H. Huntington) read the notice convening the meeting and stated that he had received replies from a very large number of officers who heartily supported the resolution, which was as follows:—

"This representative Meeting of present and past officers of the Special Reserve and Militia desires to express its great regret that proposals are being put forward to disband the Units of the Special Reserve. This Meeting points out that the Special Reserve represents the Militia, the oldest Military Force in the Country, and has a long and meritorious record reaching back to the earliest periods of our history.

"The Meeting also urges that before His Majesty's Government arrives at a final decision consideration may be given to the undoubted claims of the Special Reserve to be included as Units in any future Reserve Force that may be established, whether on a Territorial or other basis."

The Chairman, in moving the adoption of the resolution, gave the following address:—

"The Honorary Secretary and myself have put together a few historical facts and some figures with regard to the service of this branch of the Army. It is common knowledge that the Militia of England dates back to the period of King Alfred, and since then it has been the Constitutional Force of this country.

"We know little with regard to the Force in the Middle Ages, but, for war trophies, there is nothing to compare with the Bells of Agincourt which the men of Monmouth brought back with them from that campaign, which are still ringing in the church steeple.

"At the threatened invasion of the Spanish Armada, forty-three regiments of trained bands (Militia) were in existence and performing military duty. The direct cause of the Civil War in King Charles I.'s time was the question of the command of the Militia, and units fought as such on both sides of the contending armies.

"At the time of the Monmouth Rebellion in 1685, a portion of the Militia was called out, and fought at Sedgemoor; as also during the Jacobite risings of 1715 and 1745. During the Seven Years' War, 1756 to 1763, fifty units were embodied for permanent service; and in the American War of Independence sixty-seven units were embodied.

" From 1793 to 1802, and again from 1803 to 1816, the whole of the Militia was embodied, and during that period the Regular Army was very largely recruited from it; it supplied a complete Militia Brigade for service in the Peninsular War (commanded by Major-General Sir Henry Bayly).

" In the Waterloo campaign large numbers of men were contributed to the Army, and at the Battle of Waterloo very many of these men were still wearing their Militia uniforms.

" During the Crimea and the Indian Mutiny, 1854—1860, the whole of the Force was embodied; a large number volunteered for active service; certain battalions served abroad, the Regular Army drawing large numbers of men from them for the seat of war. On threatened war in 1878 and 1885 a few units were again embodied.

" During the South African War the whole force was embodied; 61 battalions, 6 batteries R.A., and 4 companies R.E. went to South Africa, while 9 battalions served overseas in Egypt and elsewhere. In all 102,803 of all ranks served abroad.

" In 1907, when the Army Council were forming the Territorial Army, their first intention was to base it on the Militia; a large and influential committee of Commanding Officers of Militia units was assembled, with Colonel the Duke of Bedford, K.G., as Chairman. In addition to being a member, your Chairman was appointed Secretary, and endeavoured to persuade them to accept the proposal, but without success, and the Committee reported against it; as a result the Territorial Army was formed on the old Volunteer Force; the Militia battalions, as Special Reserve, became dépôt battalions of the line regiments; 31 Artillery brigades and 23 Infantry battalions were disbanded, the only units who retained their former status being those of the Royal Engineers.

" Of the present units, forty-seven were raised and have been in continual existence since 1660, some of them previous to that date. In 1757 the Militia was organized more or less on its present basis. Forty-four additional units were formed between 1778 and 1802, the cadres of most of which have been continued since those dates. The majority of the Irish and Scottish units date from 1793 and 1797 respectively, and still live.

" The Force has aided the Civil Power at the Great Fire of London, 1666; the Gordon Riots, 1780; the Luddite disturbances, 1812, and on other occasions.

" Comparisons are always odious, but one cannot help remarking that, with the exception of the Honourable Artillery Company and certain Yeomanry regiments, no Territorial unit can lay claim to having been in continual existence previous to 1859. A few corps maintained their connection with the volunteers of the Revolutionary Wars as Rifle Clubs, but had no recognized military status.

" The whole of the Special Reserve units were mobilized in 1914 and took over the training of officers and men for the supplying of drafts. We have been able to ascertain from the returns available that the average number of officers and men trained and despatched to the battalions in the field per Special Reserve unit, was: officers, 667; other ranks, 17,458. This gives a total of: officers, 67,307 and other ranks 1,763,258. This is a rough estimate, but it will be found to be generally correct; indeed it is a low estimate, as it only includes the Infantry units; of the Cavalry, Artillery, and Engineers no records are available. These figures speak for themselves.

" Taking the total number of men raised in the British Empire at about 8,000,000, the Special Reserve trained and despatched to the field approximately a quarter of the whole.

" In addition to this the Special Reserve sent to the front as units: Cavalry, 4; Royal Engineer companies, 13; Infantry battalions, 6, which includes the Guernsey Light Infantry, which were maintained to strength by the home units respectively.

"I wish I could have been in the position to have rendered you some figures as to the numbers of retired Militia and Special Reserve Officers who rejoined for service during the war, but this is quite impossible. This I can say—that many hundreds of them passed through my hands at the War Office. Many of these rejoined their old battalions; others were employed in the Service battalions, and not a few in command of them, and others as Brigade Commanders; large numbers were taken for dépôt and administrative work, and the Volunteer Corps absorbed not a few of the older Officers.

"Every thinking soldier, no one more than myself—as I have recently had to read the Gold Medal Essays of this Institution, the subject of which was set by the General Staff, and deals with the New Model Army, which will shortly be published—is more convinced of the Herculean task which faces the Secretary of State and his advisers in preparing his scheme for this New Army and the difficulties he has to meet in making the new order of things fit to some extent with the pre-war Army as it then existed. This we do know—there must be a second line; of its numbers and constitution we are ignorant; and that this second line must be on one basis only and not the various different forces which we had previously is obvious to us all; what I plead for is that when the units of such Force have been settled, that the Special Reserve (the representatives of the old Militia) may have their just share of such units, and I am very desirous that this meeting should pass this resolution with unanimity, and especially that part of it which commits the Special Reserve as units to undertake the duties of the future Reserve Force on whatever basis it may be placed.

"The Secretary of State and the Army Council have shown great interest in this meeting, and I have had frequent interviews with the Department concerned, and I am pleased to inform the meeting that the Secretary of State and the Chief of the Imperial Staff will receive a deputation from representatives of the meeting, if the resolution is agreed to, at 5 o'clock this evening; he has kindly arranged to-day and that hour, in order that officers who have travelled from a distance may not be inconvenienced."

Brigadier-General Massy-Lloyd, C.B.E., 3rd Suffolk Regiment, Chairman of the Militia and Special Reserve Club, seconded the resolution, and said the question was constantly in his mind, after the Armistice, whether the Special Reserve had fulfilled its functions.

At the beginning of the war Generals assured him that the Expeditionary Force could not have held the field for six months if it had not been for the Special Reserve. Towards the end of the war, in April, 1918, Field-Marshal Earl Haig said in despatches: "Divisions thrown into the fight, in spite of great disadvantages under which they laboured, succeeded in holding up the advance of greatly superior forces of fresh troops. Such an accomplishment reflects the greatest credit on the youth of Great Britain, as well as upon those responsible for the training of the soldiers sent out from home at this time."

He thought the Special Reserve could take credit for this praise of the Field-Marshal at the ending of the war. Although this branch of the Service was not thanked by Parliament, they were not out to air their grievances, but to save what they could of the old constitutional Force.

A Committee of the War Office was sitting and thinking out a scheme for the Territorials to take the place of the Special Reserve, but the Territorial Force would not be able to carry out the functions of the Special Reserve.

The embodiment of the Special Reserve did not cause the same inconvenience to business which the mobilization of the Territorials would do in consequence of the class from which it was recruited.

He strongly urged the retention of the Special Reserve, first, because of the good work it did in the past; secondly, because of the good work it did during the war; and, thirdly, because of the good work it could do, and would do, in the future if it was only helped by the War Office extending the hand of friendship.

Colonel Lord Ampthill, G.C.I.E., G.C.S.I., 3rd Bedfordshire Regiment, in the course of his remarks said it was difficult to speak on that subject without bitterness: their one and only object was to preserve the old constitutional Force, but it was possible to ask what they had done, or in what respects they had failed, that it should be proposed that they should be disbanded without even a charge having been brought against them, or without being given an opportunity to plead at the bar of public opinion.

If they had failed there might be something to say for the proposal, but they had not failed. The Militia had never failed in any one of our campaigns; the Militia and its successor enabled our armies to keep the field. The Army would never have kept the field for six months, or for six weeks, without the Special Reserve. At the beginning of the war the Special Reserve fulfilled a threefold task: in the first place it relieved the Territorials of the defence of the coast, for which they were not prepared. At the same time they had to send out drafts and reinforcements, and their third task was to help to build up the new Army. Nobody had ever suggested that they had failed, and if there had been any justice at all there must have been a very handsome acknowledgment of the services of the Special Reserve during the war: as yet we have not even been thanked in Parliament.

They were never given a chance to go out as battalions to the front: that was not possible at the beginning, but later there were periods when splendid, efficient battalions might have been sent out, and they would have been animated by that which was more valuable than anything else in war time—*esprit de corps* and tradition.

None of us care about the treatment accorded to us individually in recognition, praise, decorations, etc., but we do care that we were not allowed to go out as battalions and keep up the glorious traditions of centuries which belong to us.

Brigadier-General Cockerill, M.P. (late 7th Bn. Royal Fusiliers), said he was not sure what the proposals were that were said to have been put forward. He associated himself with much that had been said by Lord Ampthill. The Special Reserve were not only intended to provide draft-finding battalions. On the contrary, before accepting the command of the 7th Battalion, he had received an assurance from the War Office that the extra reserve battalions would go abroad as independent units under their own officers. When the war broke out in 1914 that pledge was broken. He did not think they need be on the defensive with regard to this Force, which had done much good work, but they wanted to make sure that the point of view of the Special Reserve and Militia Officer should be represented to the Government, so that they should know of the strong feeling in the Force against this threat to its existence, and that public opinion was behind this feeling.

Brigadier-General North said none of them had any feeling against the Territorial Force. If in the future there were to be only two lines, then they wanted the Special Reserve to be the first line of Territorials which in a special emergency would go on active service.

Lieut.-Colonel Crichton Browne (King's Own Scottish Borderers) supported the resolution, and said it raised a question of national importance. To disband the units of the Special Reserve would be highly injurious to the best interests of the country.

Lieut.-Colonel Swift (5th Royal Dublin Fusiliers) said it was of great importance that the Special Reserve should be retained in Ireland, where there was no other reserve force of any kind.

Colonel Sir William Watts, K.C.B., late 3rd Welsh Regiment, said that the Special Reserve should be retained. It was largely recruited from a class of men who did not desire to become regular soldiers, but joined the Militia and looked forward to their yearly training at a time when their usual work was slack, which was an advantage to themselves and their employers, and the work of the nation was not handicapped thereby.

It was rumoured that the obligation of foreign service was to be placed on the Territorials, and the general opinion was that the most eligible recruits would reject the same owing to their civil avocations: on the other hand the men of the Special Reserve or Militia would willingly serve abroad on emergency, as was so strongly illustrated at the commencement of the South African War.

Lieut.-Colonel Churcher, 3rd East Lancashire Regiment, also supported the resolution, which was carried unanimously.

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Lieut.-Colonel Sir Arthur Leetham, representing the Royal Monmouthshire Engineers, introduced the deputation which waited on Mr. Churchill and the Army Council at the War Office immediately after the meeting.

The following composed the deputation:—

Brigadier-General	Massy-Lloyd, late 3rd Suffolk Regiment.
"	G. Cockerill, M.P., late 7th Royal Fusiliers.
"	North, 3rd K.O. Royal Lancaster Regiment.
Lieut.-Colonel	Lord Amptill, 3rd Bedford Regiment.
"	Bradbridge, 4th Lancashire Fusiliers.
"	Churcher, 3rd East Lancashire Regiment.
"	Colvin, 3rd Essex Regiment.
"	Crichton Browne, 3rd K.O.S. Borderers.
"	Disbrowe-Wise, 3rd Sherwood Foresters.
"	Greg, 3rd Cheshire Regiment.
"	Hawkes, 3rd Northumberland Fusiliers.
"	Leather, 4th Durham Light Infantry.
"	North, 3rd Royal Berkshire Regiment.
"	Spiller, 3rd Wiltshire Regiment.
"	Swift, 5th Royal Dublin Fusiliers.
"	Wingfield, 3rd Gloucestershire Regiment.

Major H. Huntington (Hon. Secretary), late 6th Rifle Brigade.

In reply, Mr. Churchill promised that the retention of the Special Reserve and Militia as units in the new Army would receive his sympathetic consideration.

It has now been officially announced that units of the Special Reserve will be retained, and also that the title "Militia," in use as far back as 1558, should be again resuscitated.

The Club have good reasons to be gratified with the results which have been obtained.

H. HUNTINGTON, Major,  
Hon. Sec.

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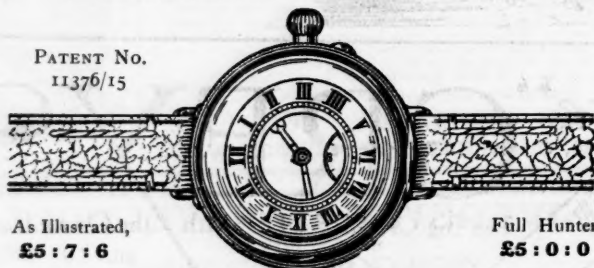
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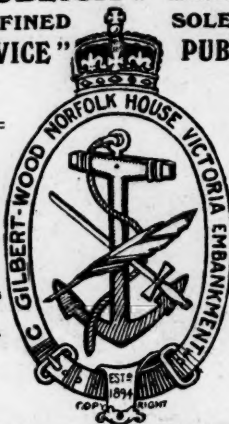
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